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3.3.2 NUMBER OF PAPERS PUBLISHED PER TEACHER IN THE JOURNALS NOTIFIED ON UGC WEBSITE DURING THE LAST FIVE YEARS (5)

SUMMARY REPORT

S.NO	ACADEMIC YEAR	TOTAL COUNT	JOURNALS				
			DEPARTMENT	COUNT			
1	2020-2021	193	IT	9			
			CIVIL	26			
			MECH	40			
			CSE	36			
			ECE	24			
			AERO	11			
			H AND S	13			
			EEE	20			
			MBA	7			
2	2019-2020	49	IT	9			
			CIVIL	2			
			MECH	11			
			CSE	2			
			ECE	26			
			H AND S	3			
			EEE	4			
			MBA	2			
3	2018-2019	19	IT	1			
			CIVIL	8			
			MECH	6			
			ECE	10			
			EEE	4			
			MBA	2			
4	2017-2018	56	IT	1			
			CIVIL	13			
			MECH	4			
			CSE	7			
			ECE	12			
			AERO	3			
			H AND S	2			
			EEE	4			
			IT	1			
5	2016-2017	45	CIVIL	2			
			MECH	21			
			CSE	7			
			ECE	21			
			AERO	2			
			H AND S	5			
			TOTAL		362		

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PREVENTING DATA LOSS AND PROVIDING SECURE DATA STORAGE IN CLOUD USING HYBRID CRYPTOSYSTEM

SIDDI SRINIVAS

¹Assistant Professor, Mahaveer Institute of Science and Technology, Hyderabad, India

¹Email-Id:srinivasiddi@gmail.com

Abstract Cloud computing has become an integral part of most of the private and public organizations and being used for data storage and retrieval. There are many usage of cloud computing and widely used in highly confidential national services like military and treasury for storing confidential information. The cloud computing for example Google drive, Amazon Web Service and Microsoft Azure are beneficial for organizations and end-users. Using Cloud computing and its services, organisation/end-users can store their data. There are multiple challenges while saving organisations highly confidential documents in servers. Hence, the objective of this paper is to provide a high-level design for a storage system maximising security and personal privacy. Though servers are highly protected against unauthorized access, there are incidents where confidential files stored on servers are accessed by the maintenance staffs. Hence this research paper provides introductory structure for fully protection of files stored in the server by using Hybrid Cryptosystem In this paper we are finding the sensitive information from the file and it should encode by the erasure encoding after that it's encrypted by the using MD5 for remaining data it should encrypted by the sha-1 then combined the data and stored into the cloud.

I. INTRODUCTION

The cloud is popular to store data and files due to the low costs, less maintenance and ease of access from any location. Apart from the private and public organizations, government services are looking for cloud based storage and services for their confidential data storage. Every cloud provider like Microsoft Azure, IBM, Amazon Web Services (AWS) and many others have provided their own technique to encrypt and decrypt the data. The cloud computing is widely used in private and public services organizations for storing huge amount of data which can be made available from any location. The usage of cloud is found in industry, military colleges, and private organizations. The data stored on the cloud is accessible by user authentication but for confidential access multiple layer of security is implemented. The algorithm of this multiple layer security is dependent on the level of privacy. To provide the solution to different levels of security, cryptography and steganography techniques are popular. Multiple algorithms must be incorporated to enhance the level of security in data storage. New technique, using symmetric key cryptography algorithm and steganography is proposed in this work.

Keywords — Cryptography, Encryption, Decryption, Security

II. LITERATURE REVIEW AND EXISTING SYSTEM

Data Security Issues [5] are main issue in the existing system. Due to openness and multi-tenant characteristics of the cloud, the traditional security mechanisms are no

HYBRID CRYPTOGRAPHY TO SECURE ENCRYPTED TECHNIQUE FOR WIRELESS NETWORKS'BADEPALLY MALLAIAH

¹Assistant Professor, Mahaveer Institute of Science and Technology,

Hyderabad, Telangana, India

E-mail : ¹mallaiah79@gmail.com

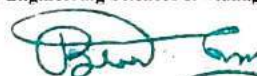
Abstract -Nowadays wireless networks are becoming more popular and tremendously increasing due to various enhanced technologies. The major development in this technology is communicating via wirelessly where mobile nodes communicate with each other without use of any base station. These networks are called as mobile ad hoc networks (MANET'S). As communication is done wirelessly, these types of networks are prone to several kind of attack. Thus, providing security to wireless network is challenging. Encryption, authentication usually acts as a first line of defence while next intrusion detection system (IDS) acts as a second line of defence. Therefore in this paper by using hybrid cryptography we are enhancing more secure transfer of data. This paper also extends to provide and enhance security for replay attack and message tampering attack.

Key Words: plain text, cryptography, encryption, decryption, hybrid cryptography

1. INTRODUCTION

Nowadays, cryptography plays a major role in protecting the information of technology applications. Information security is an important issue, for some applications. Have the top priority such as ecommerce, e-banking, e-mail, medical databases, and so many more, all of them require the exchange of private information. Cryptography is the transformation of readable and understandable data into a form which cannot be understood in order to secure data. Cryptography refers exactly to the

methodology of concealing the content of messages. the word cryptography comes from the Greek word "Krypton", that means hidden, and "graphics" which means writing. For example, let us consider a person named Alice a sender who wants to send a data message which has a length of characters to a receiver called Bob. Alice uses an unsecure communication channel. Which could be a telephone line, computer network, or any other channel? If the message contains secret data, they could be intercepted and read by hackers. Also they may change or modify the message during its transmission in such a way that Bob would not be able to discover the change. In this survey a various ways of encryption is viewed and have been compared, a lot of examples have been provided. Network security is a new and fast moving technology and as such, is still being defined. When considering the desired learning outcomes of such a course, one could argue that a network security analyst must be capable of analyzing security from the business perspective in order to adhere to recent security legislation, and from the technical perspective in order to understand and select the most appropriate security solution. Network security originally focused on algorithmic aspects such as encryption and hashing techniques. While these concepts rarely change, these skills alone are insufficient to protect computer networks. As crackers hacked away at networks and systems, courses arose that emphasized the latest attacks. Currently, many educators believe that to train people to secure networks, they must also learn to think like a cracker. The following background information in security helps in making



M. M. VEER

INSTITUTE OF SCIENCE & TECHNOLOGY
Bandlaguda, Hyd-500 005

Impacts and Insights of Bigdata in Agriculture Sector

V NARESH KUMAR REDDY,

Assistant Professor, Mahaveer Institute of Science & Technology,

Hyderabad, Telangana, India

E-mail: vnkreddy12@gmail.com

Abstract:

Agriculture plays with substantial part in virtually each and each country economy on earth. It's understood that agriculture generates enormous number of data with vast velocity and broad variety of wide assortment in every moment. Assessing the data along with accepting conclusions based upon the data will be tremendously troublesome using conventional resources and techniques. Thus maybe perhaps not merely large quantity of services and products but additionally fertilizers, labour as well as other tools are all also now wasted. Big data analysis will be your optimal/optimally method to learn more about the data. Assessing the debate about the way big data analytics and also the way its resources utilize Within the Area of agriculture would be your Most Important Goal of this paper

Keywords: Big Data, Big Data Analysis, Agriculture, Big Data Tools and Techniques.

INTRODUCTION:

Recent years have seen a spectacular increase in technical advances, specially as the growth of this net and its own applications in regular activity. When people halt and browse round, an individual can detect that tech has really touched each and just about every single element of individual living, be it instruction, communicating, foodstuff, wellness or way of life. Tech, in its varied types and contours, is empowering human beings to reach longer without, also contains given a much bigger stage to innovate.

This accelerated burst of engineering in addition has caused a spike in big data round us. Although big data analytical plays

a very substantial portion of different businesses, in agriculture it isn't embraced. It's been discovered that the entire people will transcend the 9 billion in 20 50 [16]. Hence, delivering and producing services and products in economically is tremendously crucial. Making use of big data analytics in agriculture, supplies exceptionally innovative advantages including innovate remedy to decreasing the use of tools using having crop of asserting in agriculture. Precision agriculture is largely relied upon assessing the actual time data that includes sizable level and out of various origins like dirt, climate conditions, atmosphere and devices, accessibility etc.. Smart FARM-ing that's principally

A case study for Machine Learning Algorithms - Regression, Classification and Clustering

KBVK NAGASREE,

Assistant Professor, Dept. Of Information Technology,

Mahaveer Institute of Science and Technology,

Bandlaguda, Hyderabad, India.

Nagasree_k@yahoo.com

Abstract: Machine learning is predominantly a field of Artificial Intelligence that has turned into a crucial part of digitalization remedies that's captured major care from the digital stadium. Inside this paper creator plans to accomplish some short overview of many machine learning algorithms that can be most usually employed and are definitely the absolute most widely used kinds. Mcdougal plans to highlight the various virtues and demerits of this system learning calculations from their app outlook to assist within a educated selection making selecting the right studying algorithm to fulfill the particular element their applying.

Keywords: Support Vector Machine, Logistic Regression, Support Vector Machine, Gradient Descent, , Artificial Neural Network, K Nearest Neighbor, Decision Tree, Back Propagation Algorithm, K Nearest Neighbor, Bayesian Learning, Naïve Bayes.

I Introduction:

A good beginning purpose with this paper is going to soon be to start with all

the essential idea of machine-learning. In machine-learning how that about a computer application can be delegated to execute a few tasks plus it's also supposed the system has learnt from its own experience in case its own quantifiable operation in these types of activities enriches since it increases a growing number of practical knowledge in executing those activities. Hence that the system carries conclusions and can predictions / calling predicated on info. Pick out the illustration of pc system application that learns to find / predict most cancers from your medical analysis stories of the patient's It helps in operation since it assembles more encounter by assessing clinical evaluation stories of broader populace of all patients. Its operation is going to be measured from the usage of proper predictions and also detections of all cancer cases because supported through a knowledgeable Oncologist. Machine-learning is implemented in large selection of areas particularly: robotics, digital private assistants (such as Google), video game titles, design

Integration of AI and Block-chain towards smart contract in Nodes

KAMATHAM PRIYANKA

Assistant Professor, Dept. of Information Technology,

Mahaveer Institute of Science & Technology,

Bandlaguda,Hyd,India.

priyankakamatham@outlook.com

Abstract: It's incontrovertible that artificial intelligence (AI) and also block-chain theories are dispersing in a remarkable pace. Equally technologies possess different level of technical sophistication and multi small business consequences. But a frequent misunderstanding regarding block-chain theory, particularly, is the fact that "that a block-chain is decentralized and hence nobody controls it". However, the inherent creation of the block-chain process remains credited into a bunch of heart programmers. Choose smart contract within an example, it's fundamentally a group of codes (or purposes) and info (or countries) which can be engineered and set onto a block-chain (state, Ethereum) by unique individual developers. It's therefore, sadly, not as probably function as liberated of flaws and loopholes. Additionally with smart contracts that are smart, block-chain gets got the capacity to regulate connections amongst participants without a dependence or some trusted third party. AI, on the opposite side, delivers wisdom and decision making capacities for devices very similar for individuals. Inside This paper we provide a in Depth questionnaire on Block Chain software for AI. In this article, by a concise summary of how exactly artificial intelligence can possibly be utilized to provide smart contract in order to get the aim of block chain 2.0, " individuals personally must highlight which the block-chain execution might be aided or improved through numerous AI methods. The alliance of both AI and also Block-chain Is Predicted to make a Lot of chances.

Keywords: Artificial intelligence, Smart contracts, Blockchain, Machine Learning, Distributed autonomous organization.

1 Introduction:

Block-chain may be your earliest very stable de-centralized world wide network.

Bitcoin [1] is very similar to additional crypto currency in its own theory, nevertheless it could be by far the most

Supervised classification learning for fake review using logistic regression

DEVENDHARNAYINI

Assistant Professor, Department of Information Technology

Mahaveer Institute of Science & Technology

Bandlaguda, Hyderabad, India.

devendharnayini1224@gmail.com

Abstract: Just before making a buy, end people are inclined to navigate on the web reviews which can be submitted to generally fairly talk about post-purchase adventures of services and products. But not all of inspections are all of necessity accurate. Some entrances can possibly be imitation nonetheless composed to seem genuine. Conceivably, accurate and imitation reviews aren't simple to distinguish. Thus this paper employs supervised learning algorithms to further test the point to which accurate and imitation reviews can possibly be differentiated dependent on just four main cues, specifically, understandability, degree of data, composing fashion, along with cognition indicators. On-line testimonials have amazing effect on the current industry and trade. Determination making for

order online services and products mostly is dependent upon reviews distributed by these end consumers. Thus, opportunistic persons or bands decide to make an effort to govern solution or service reviews to their interests. This clinic is also called impression (Inspection) Spam, at which spammers control and toxin testimonials (i.e., making imitation, untruthful, or misleading critiques) for gain or profit. As perhaps maybe not all of on-line critiques are honest and dependable, it's necessary to produce processes for discovering article spam. By minding important attributes from your written writing utilizing Natural Language Processing (NLP), then it's likely to run inspection spam detection utilizing several machine learning methods. In addition, user friendly info, aside from

Deep Learning frame work to predict patient admissions to an Emergency Department

'R KESHAIAH

¹Assistant Professor, Mahaveer Institute of Science and Technology,
Hyderabad, Telangana, India

E-mail : ¹rameswaramkeshav@gmail.com

Abstract: Over-crowding at Emergency Departments (EDs) could possess more serious unwanted effects for all patients. EDs so must learn more about using advanced techniques to increase blood flow and protect against over crowding. Potential system may be using information mining utilizing machine learning methods to predict ED admissions. We utilize three different calculations to further construct the predictive versions: logistic regression, alternative timber. We identify a few facets linked to hospital admissions for example hospital website, era, birth style, triage class, care category, past entrance from the last calendar 30 days, and also previous entrance within the last year. This analysis highlights the potential usefulness of about shared machine learning algorithms in predicting individual admissions. Practical execution of those units developed inside this analysis indecision support programs will offer a snapshot of predicted entries from the emergency section in a specific period, allowing for

progress supply preparation and af, the avoidance bottlenecks in patient flow, in addition to comparison of predicted and precise entrance prices. If interpretability can be just actually really a critical concern, EDs really ought to look at adopting logistic regression versions, but GBM's is likely to undoubtedly be of good use at which precision is overriding.

Keywords: Hospitals, Emergency Department, Predictive Models, Machine Learning.

I Introduction:

Crowding could have considerable detrimental impacts for staff and patients, such as for example for instance raised delay period, reevaluate recreation, reduced workers expectancy, unwanted patient consequences like elevated mortality, along with also cancellation of optional techniques [inch --6]. Previous exploration shows ED crowding for always a substantial global difficulty [7], making it essential that complex measures are required to deal

Flood: Multi-Path Responsive Big Data Monitor for Efficient Workflows on Clouds

S SUNIL

¹Assistant Professor, Mahaveer Institute of Science and Technology,

Hyderabad, Telangana, India

E-mail : ¹snsungar@gmail.com

Abstract— The global deployment of cloud datacenters is enabling large scale scientific workflows to improve performance and deliver fast responses. Overflow advises a set of pluggable services, convened in a data scientist cloud kit. They provide the applications with the possibility to monitor the underlying infrastructure, to exploit smart data compression, duplication and geo-replication, to evaluate data supervision costs, to set a balance between money and time, and optimize the transfer tactic accordingly. The system was validated on the Microsoft Azure cloud across its 6 EU and US datacenters. The experiments were conducted on hundreds of nodes using fake levels and real-life bio-informatics applications (A-Brain, BLAST). The results show that our system is able to model accurately the cloud performance and to leverage this for efficient data diffusion, being able to reduce the fiscal costs and transfer time by up to three times.

Key words: Big Data, Scientific Workflows, Cloud Computing, Geographically Distributed, Data Management

1 INTRODUCTION

Cloud technology provides services to the client through the internet managed by the cloud provider. Cloud infrastructures provide fast development of applications with their distributed data centres. Some of the companies which are providing cloud technologies are Google, Microsoft, amazon etc. Applications that are running on cloud such as Google Drive MS office 365, many search engines and scientific workflows etc. Many applications are kept at many sites to provide proximity to users. Cloud technology provides not only services to the clients but also it provides coherence for mining queries, maintaining and monitoring operations, processing request in public cloud storage. To achieve this big Data processing, cloud provider have setup multiple data centres at different locations. This results in sharing, analysing data sets and large scale data movements across multiple distributed sites. Some of the target applications are exhaustive which include movement of large which is too expensive.

In these inter-sites distance cost saving should bring the equalize to normal. The lively cloud data management services usually need mechanisms for dynamically coordinate transfers among different data centres in order to complete logical quality of service levels and optimize the cost-performance. Being able to effectively use the underlying storage and network resources has thus become critical for wide-area data movements as

well as for federated cloud settings. This geographical allocation of calculation becomes progressively more important for scientific innovation. In fact, many Big Data scientific workloads enable nowadays the dividing their input data. This allows achieving mainly of the processing

separately on the data partitions across different sites and then to combined the results in a final phase.

1. LITERATURE SURVEY

Literature survey is the most important step in software development process. Before improving the tools it is compulsory to decide the economy strength, time factor. Once the programmer's create the structure tools as programmer require a lot of external support, this type of support can be done by senior programmer from websites or from books.

N. -L, X. Yang. "explained on Big data centre works with sites at several locations capacity their key properties allowing to the top request of earthly area that every site securities. The request of particular parts surveys durable day outlines with extraordinary topmost to vale shares that outcome in reduced middling request diagonally a day. In this paper, we display in what mode to book unutilized bandwidth across several data centres and support networks and use it for non-real-time applications, such as backups, circulation of large updates, and relocation of data. Realizing the above is non-trivial since remaining band- width appears at different times, for different durations, and at changed places in the world".

ADVANCED CRYPTOGRAPHIC APPROACH FOR IMPROVING SECURITY OF RESOURCE RESERVED MOBILE DEVICE OUTSOURCED DATA IN CLOUD COMPUTING

Dr. A.NANDA GOPAL REDDY,
HOD, Professor in The Department of Information Technology, Mahaveer Institute of Science and Technology, Bandlaguda, Hyderabad, India.
nandagopalreddy@gmail.com

D.SWATHI
Assistant professor, Department of Information Technology, Mahaveer Institute of Science and Technology, Bandlaguda, Hyderabad, India, swduggi@gmail.com

ABSTRACT

Mobile Cloud Computing in the increasing popularity among users of Mobile Devices to store their information in the cloud. Security is the major concern when the confidential information is stored and transferred across the internet. It is required to make sure that the data is secured and protected. The problem of privacy of data with reducing the resources usage. Moreover, Mobile Cloud Computing has limitations in assets such as power energy, processor, Memory and storage. Cryptography ensures the confidentiality, authentication, availability, and integrity of the information. This is can be achievable through cryptographic algorithms known as Data Encryption Standard, Blowfish and Advanced Encryption Standard. The experimental results evaluated against the performance of the Encryption Algorithm. CPU and Memory utilization are the primary metrics which can be helped while encryption and decryption time. Evaluation results showed a significant improvement in reducing the resources, amongst all the techniques, choosing a suitable encryption algorithm based on different parameters that are perfect match to the future user requirements is considered.

Keywords: Cloud Computing using Mobile, Blowfish, AES, Security, Privacy, Mobile Device.I

INTRODUCTION

Mobile cloud computing uses cloud IaaS to carry out the resource intensive tasks via internet to provide higher scope of functionality with minimal pressure on mobile resources. Cloud computing is a modern era computing technique that has

an outstanding future and will become the vital benefit to the information technology. Pay-as-You-Go is the Principle Asset while using cloud computing. Cloud computing provides a virtual platform with flexible resources on demand by facilitating the required infrastructure.

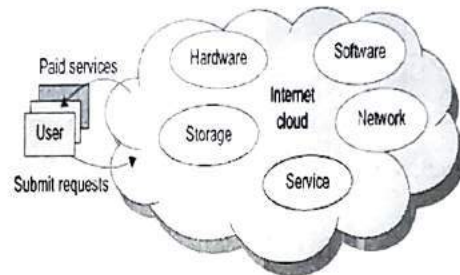


Figure 1.1 Cloud Environments

There are various layered architectures available for cloud computing to provide the services as a utility. Cloud's key layer accommodates physical servers and switches. The cloud service owner is accountable to run, manage, and upgrade cloud hardware resources according to the requirements of cloud customers. The backbone layer is also plays a crucial role while locating hardware resources to users in well-defined manner. The Primary software layer contains the system software to operate the cloud hardware resources. The software of the

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To
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**PREEMPTIVE ASSESSMENT THROUGH INFORMATION SECURITY
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M. A. NAVEER
INSTITUTE OF SCIENCES & TECHNOLOGY
MADHURAH, Hyderabad

PREEMPTIVE ASSESSMENT THROUGH INFORMATION SECURITY PERCEPTION

SIDDI SRINIVAS

Assistant Professor, Dept of Information
Technology, Mahaveer Institute of Science
& Technology, Bandlaguda, Hyd, India.
srinivasiddi@gmail.com

BADEPALLY MALLAIAH

Assistant Professor, Dept of Information
Technology, Mahaveer Institute of
Science & Technology, Bandlaguda, Hyd,
India,
mallaiah79@gmail.com

ABSTRACT

Objectives: The Internet has become a data superhighway where scholars develop their ideas and social experiences. However, Internet usage regularly leads to various risks like cybercrime, identity theft, and malware infections. Therefore, it is needed to know about Information Security practices and the level of awareness they possess to assess and prevent cybercrimes. **Methods:** The research adopts a Descriptive Interrelation Method, which includes the use of online questionnaires conveyed through Google form, interviews, and observations. Used Simple Random Sampling method for selecting the respondents. **Findings:** Outcomes indicate that there was a significant positive association between respondents' Year level with the level of Information Security Awareness (ISA), ($r(411) = .451, p < .001$). The result shows that the higher the respondents' Year Level, the higher the comprehension and awareness in Information Security (I.S.). Students improve their experience, knowledge, and understanding of the protection and dissemination of Information when they progress to a higher year in the study. This implies that the program curriculum successfully meets the knowledge requirements of the learners in the University. **Application/Improvements:** This study's result can serve as the basis for policy measures on Computer Networks in the University. It may also serve as a guide for developing inclusive and beneficial Information Security Perception (ISP) training programs for the students.

Keywords: Information Security Awareness, Case Study, Descriptive interrelation Design,

INTRODUCTION

The Internet has become a data superhighway where students propel their ideas and social experiences (Chou, C., and Peng, H., 2011). The new direction requires administrations to allow their community members (faculty, students, and staff) to utilize their mobile devices

and computer systems to perform tasks. Such activities have led to an increased number of attacks and information security breaches. Electronic data,

mobile devices, knowledge, behaviors, and unintentional mistakes caused by users seemed to have contributed to this predicament (Khan, H. U., & Gadhoum, Y., 2018). Literature

Reviews about information security support the importance of research in measuring information security where possible (D'Arcy and Herath, 2011; Crossler et al., 2013). Thus, instead of opposing prohibitive approaches it is better to cultivate a culture of appropriate use and raise awareness about students' information security (Vicks, M., 2013).

Indeed, prioritizing knowledge over policies restricting or limiting students to educational resources is a must (Datar, T. D., Cole, K. A., & Rogers, M. K., 2014). However, since there are varying levels of information security awareness (ISA) that differ from country to country; therefore, a need to conduct a study demonstrating particular profiles of the students in a specific context (Yilmaz, R., Karaoglan Yilmaz, F. G., Öztürk, H. T., & Karademir, T., 2017) is encouraged. Lisman (2002) suggests performing research studies on the safe Internet, and computer usage awareness nationally. A survey conducted on Students Information Security Behavior at the University of Dhaka, Bangladesh revealed unintentional disclosure of data and financial malware attacks has the highest incidence among students.

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Website: www.anveshanaindia.com

Hyd-500 005, Email Id: info@anveshanaindia.com

PREEMPTIVE ASSESSMENT THROUGH INFORMATION SECURITY PERCEPTION

SIDDI SRINIVAS

Assistant Professor, Dept of Information
Technology, Mahaveer Institute of Science
& Technology, Bandlaguda, Hyd, India,
srinivasiddi@gmail.com

BADEPALLY MALLAIAH

Assistant Professor, Dept of Information
Technology, Mahaveer Institute of
Science & Technology, Bandlaguda, Hyd,
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mallaiah79@gmail.com

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To

V.NARESH KUMAR REDDY
FOR THE PAPER TITLE OF

A UNIQUE TESTING NAMED METAMORPHIC TESTING FOR SOFTWARE
QUALITY, VERIFICATION, VALIDATION AND QUALITY ASSESSMENT: AN
APPROACH TO SEARCH ENGINES

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BANDLAGUDA, Hyd-500 085.
Email Id: info@anveshanaindia.com

Website: www.anveshanaindia.com



A UNIQUE TESTING NAMED METAMORPHIC TESTING FOR SOFTWARE QUALITY, VERIFICATION, VALIDATION AND QUALITY ASSESSMENT: AN APPROACH TO SEARCH ENGINES

K.B.V.K.NAGASREE,

Assistant Professor, Department of Information Technology, Mahaveer Institute of Science and Technology, Hyderabad, Telangana, India.
nagasree_k@yahoo.com

V.NARESH KUMAR REDDY

Assistant Professor, Department of Information Technology, Mahaveer Institute of Science and Technology, Hyderabad, Telangana, India.
vnkreddy12@gmail.com

ABSTRACT: *A Unique Testing named Metamorphic testing is a technique used to identify the functional conformity of software in the deficit of an ideal oracle. This paper enhances metamorphic testing into a user friendly access to software verification, validation, and quality assessment, and conducts dominant pragmatic studies with major web search engines: eg: Google. This search engine is very crucial for testing and assess using traditional ways by which it leads to the lack of an objective and generally recognized oracle. The results are useful for both search engine developers and users, and authenticates that our approach can productively amend the oracle problem and challenges surrounding a lack of specifications when verifying, validating, and evaluating substantial and complicated software systems.*

Index Terms—Software quality, verification, validation, quality assessment, oracle problem, lack of system specification, metamorphic testing, user-oriented testing, search engine

INTRODUCTION

THE goal of software engineering practices is to develop high quality software. It is therefore crucial to develop evaluation methods for various types of software qualities [1]. Testing is a widely used approach for evaluating software qualities and helping developers to find and remove software faults. The majority of software testing techniques assume the availability of an *oracle*, a mechanism against which testers can verify the correctness of the outcomes of test case executions [2]. In some situations, however, an oracle is not available or is available but is too expensive to be used—a situation known as the *oracle problem*, a fundamental challenge for

software testing.

A *metamorphic testing* (MT) method has been developed to alleviate the oracle problem [3], [4], [5]. Unlike conventional testing methods, MT does not focus on the verification of each individual output, but instead checks the relationships among the inputs and outputs of *multiple* executions of the program under test. Such relationships are known as *metamorphic relations* (MRs), and are necessary properties of the intended program's functionality: If an MR violation is detected, then a fault is said to be revealed. MT has been used to check the functional correctness of various applications [6], [7], [8], [9], [10]; [11], [12], [13], [14] and has also been applied to program proving and debugging [15], [16]. Its effectiveness has also been carefully studied [17], [18].

The present research extends metamorphic testing into a quantifiable approach for software quality assessment, which includes, but is not limited to, the verification and validation of software correctness. We applied our approach to alleviate the oracle problem for the testing and quality assessment of (web) search engines. Search engines are software systems designed to search for information on the World Wide web, and are the main interface through which people discover information on the Internet; web searching is one of the most popular functionalities of the Internet, second only to email [19]. As more and more services and data are being made available on the Internet, search engines are becoming increasingly important. In today's highly competitive search market, it is imperative

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Website: www.anveshanaindia.com

Email Id: info@anveshanaindia.com

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K.B.V.K.NAGASREE,

Assistant Professor, Department of
Information Technology, Mahaveer
Institute of Science and Technology,
Hyderabad, Telangana, India,
nagasree_k@yahoo.com

V.NARESH KUMAR REDDY

Assistant Professor, Department of
Information Technology, Mahaveer
Institute of Science and Technology,
Hyderabad, Telangana, India,
vnkreddy12@gmail.com

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Website: www.anveshanaindia.com

Email Id: info@anveshanaindia.com



ASSESSMENT WEB SECURITY AND DATA SECURITY ON PRIVATE CLOUD COMPUTING

DEVENDHAR NAYINI

Assistant professor, Dept. of Information
Technology, Mahaveer Institute of
Science & Technology, Bandlaguda,
Hyd, India,
devendharnayini1224@gmail.com

K.PRIYANKA

Assistant professor, Dept. of Information
Technology, Mahaveer Institute of
Science & Technology, Bandlaguda,
Hyd, India,
priyankakamatham@outlook.com

ABSTRACT

Data security is an essential topic that contributes the success of business operation nowadays. The high need of applying efficacious Data Security is visualized seen in all business and non-profit entities. The artefact takes the instance of university XYZ that uses Private Cloud Computing as essential tools to support its business processes. The artefact explores the effective way of measuring the level of Data Security and Web Security performance highlights more on Private Cloud undergoing its recommendations. Web Security is used to measure the Data Security and Web Security performance, respectively. The thing identifies the maturity level space between present and expected results that provides required recommendation to improve present situation. The result of the artefact is expected to provide as credentials for Data security application in Higher Education Organizations.

Keywords: Information Security, Cyber Security, Private Cloud Computing, ISO 27001, COBIT 5.

1 INTRODUCTION

Cloud Computing in the function of information technology requires standards and procedures[1], especially Private Cloud Computing where the Information Technology is managed thoroughly by the organization itself, both from the provision of infrastructure to the allocation of resources in agreement with the capacity of users[2].

Cloud computing was being distributed in all sectors of works throughout, especially in Educational institutions[3]. Based on analysis by VION and Hitachi[4], it is known that Higher Education Institutions are using the cloud to manage a wide range of technology, administrative, and educational systems, from nuts-and bolts services to more contemporary applications. This analysis also identifies that the pre-dominant model of the cloud computing in higher

education is a private cloud model capitalized by operating expenses.

Novelty of the new technology inheriting will increase the threat involved, if not managed well[5,6]. Recent cyber attacks prove that Educational Institutions are one of the major target of the hackers[7]. Based on this analysis, it is identified that in 2014, 10 percent of security is violated, involved the education sector. Based on another artefact[8], it is well-known that globally pre-dominant universities such as Harvard, is attacked by unknown hacker.

University XYZ is an Educational Institution that uses Private Cloud Computing as one of the major pedestal of Information Technology in reinforcing organizational business processes. Based from the record of firewall in the University XYZ, presently there's about 1 million obstructions detected over year targeted on its Private Cloud Computing. Given this Private Cloud Computing is one of the crucial IT Information Security needed in improving customer satisfaction, where staff and students are considered here.

Therefore, it is essential to measure the level of Information Security maturity focused on Private Cloud Computing owned by University XYZ. At University XYZ, no information security measures have been taken so that measurements are needed to determine the conditions of information security implementation at University XYZ.

Maturity model can increase the potentiality and efficiency of security programs by focusing on thorough and repeatable security process that can self improve and integrated into the overall operational infrastructure[9].

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Principal
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Madlaguda, Hyd-500

Website: www.anveshanaindia.com

Email Id: info@anveshanaindia.com



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DEVENDHAR NAYINI

Assistant professor, Dept. of Information Technology, Mahaveer Institute of Science & Technology, Bandlaguda, Hyd, India.
devendharnayini1224@gmail.com

K.PRIYANKA

Assistant professor, Dept. of Information Technology, Mahaveer Institute of Science & Technology, Bandlaguda, Hyd, India.
priyankakamatham@outlook.com

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Kandlaguda, Hyd-500 605

Website: www.anveshanaindia.com

Email Id: info@anveshanaindia.com



IPATH-PATH REDUCTION IN WIRELESS SENSOR NETWORK

S.SUNIL

Assistant professor,
Department of Information Technology,
Mahaveer Institute of science &
Technology, Bandlaguda, Hyderabad,
India, snlsungar@gmail.com,

R.KESHAVAIAH

Assistant professor,
Department of Information Technology,
Mahaveer Institute of science &
Technology, Bandlaguda, Hyderabad,
India, rameswaramkeshav@gmail.com

Abstract

Late remote sensor systems (WS-Ns) are ending up increasingly multifaceted with the emerging system scale and the dynamic idea of remote communications. Many approximation and analytic methodologies rely upon per-bundle guiding ways for careful and fine grained examination of the intricate system practices. Here propose i-Path, a novel way induction way to deal with recreating the per-bundle steering ways in unique and vast scale systems. The essential thought of i-path is to abuse high way similitude to iteratively induce long ways from short ones. i-path begins with an fundamental known arrangement of ways and achieves way surmising iteratively. I-Path includes a original plan of a insubstantial hash work for chequered of the deduced ways. Keeping in mind the end goal to additionally enhance the surmising capacity and in addition the execution productivity, i-path incorporates a quick bootstrapping calculation to recreate the fundamental preparation of ways. We likewise actualize i-path and assess its execution utilizing follows from substantial scale WS-N organizations and in addition broad reenactments. Results demonstrate that i-path accomplishes significantly higher reproduction proportions under various system settings contrasted with other cutting edge approaches.

Key words: IPath, Inference, WSN

1. INTRODUCTION

Remote sensor systems (WS-Ns) can be connected in numerous application situations, e.g., auxiliary insurance, biological community administration, and urban CO observing. In a common WSN, various self-sorted out sensor hubs report the detecting information occasionally to a focal sink through multi-bounce remote. Late years have seen a fast development of sensor

arrange scale. Some sensor systems incorporate hundreds even a large number of sensor hubs. These systems frequently utilize dynamic directing conventions to accomplish quick adjustment to the active remote channel circumstances. The developing system scale and the dynamic idea of remote network make WS-Ns turn out to be progressively mind boggling and difficult to oversee. Recreating the directing way of each got bundle at the sink side is a successful approach to comprehend the system's unpredictable interior practices.

With the steering way of every parcel, numerous estimation and analytic methodologies can lead viable administration and convention enhancements for sent WSNs comprising of countless sensor hubs. For instance, PA-D relies upon the steering way data to fabricate a Bayesian system for inducing the main drivers of strange marvels. Way data is additionally essential for a system administrator to viably deal with a sensor arrange. For instance, given the per-parcel way data, a system administrator can without much of a stretch discover the hubs with a considerable measure of bundles sent by them, i.e., arrange bounce spots. At that point, the director can bring activities to manage that issue, for

example, conveying more hubs to that zone and adjusting the steering layer conventions. Moreover, per-parcel way data is fundamental to screen the fine grained per-connect measurements. For

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INSTITUTE OF SCIENCE & TECHNOLOGY
Banolaguda, Hyd-500 085.

IPATH-PATH REDUCTION IN WIRELESS SENSOR NETWORK

S.SUNIL

Assistant professor,
Department of Information Technology,
Mahaveer Institute of science &
Technology, Bandlaguda, Hyderabad,
India, snlsungar@gmail.com,

R.KESHAVAIAH

Assistant professor,
Department of Information Technology,
Mahaveer Institute of science &
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An Optimal Cloud Computing System Image Retrieval System on HIS

(ApolloOne Prototype Model)

Nanda Gopal Reddy¹, B.V.Ramana Murthy²

¹Research Scholar, CSE Department, Rayalaseema University Kurnool, India

²Professor & HOD, CSE Department, Stanley College of Engineering, India

Abstract: The Hospital Management Informatics Systems (HMIS) in current sectors are assimilated with digital information system which is intended to meet the imperative needs of hospital management systems with health care records of the patients which are modernized with reformed self-reliant systems running on cloud computing which is an organized system for retention of information system. In the prior domain sector of hospital management system, the information integrated is of a centralized system where the autonomous hospital were incapable to maintain the enormous cost raised for maintaining the resources and where incompetent to meet the patient's requisite. In this suggested scenario through a cloud-based model the patients and the doctors are benefited with varied choices of examination in different departments and where the information is distributive and analysis of patient's records with doctors from different departments can be suggest and examine the patient record with experts. We proposed an effective solution for storing, analyzing and transmitting the image data through Customized Cloud called ApolloOne.

Keywords- Medical Image, Cloud Computing, Hospital Management System.

I. INTRODUCTION

Cloud computing is nothing but a knowledge-based paradigm that intended to provide the ultimate uses the option of ubiquitous access of information anywhere with less effort through internet. The pooled resources and software are organized persistently in a cloud system, where the ultimate user can approach and connect with the cloud through a minimum knowledge.

In addition, the cloud system provides the solutions for recurring needs of information technology and industrial demands for segregation of information under one domain. The cloud system shows new emerging solutions for all the requirements of IT through internet revolution which is also increased productivity drastically. Cloud-based systems emphasize on pay and use the utility which brought change in the information technology. The cloud system contributes to the constant needs of information system without any basic investment in the current domain and provides the high-end distributive information across global net fulfilling the needs of ultimate patients and doctors in hospital management system. In Figure 1 the layers of different cloud are discussed.

1.1 Conflicts in Traditional Hospital Systems:

a) *Insufficient utilities for sharing the data in various domains:*

In the prior HIS system the various autonomous hospitals equipped with bulk number of medical equipments such as Ultrasound, CT, radiology, equipment etc. generating huge number of storage data and encoding methods eventually the information is producing duplication of data and disuse of various resource. The system-based Patient Record (PR) generated in varied hospitals lacks uniformity in different departments.

b) *Rise in cost for individualistic composition:*

It is immense a weary task for all the hospital to maintain autonomous system setup and it is a cumbersome task to maintain all the hardware and software management requirements in the individual (respective) hospitals. The construction of (PACS) picture archive and communication systems is a challenging task in HIS which maximizes the expenditure and budget.

A Secured Data Storage system in Cloud for Prevention of Data loss using Hybrid Cryptosystem

Siddi Srinivas¹, Badepally Mallaiah²


^{1,2}Assistant Professor, Dept. of Computer Science Engineering, Mahaveer Institute of Science and Technology, Hyderabad, India

Abstract— Cloud computing has become an integral part of most of the private and public organizations and being used for data storage and retrieval. There are many usage of cloud computing and widely used in highly confidential national services like military and treasury for storing confidential information. The cloud computing for example Google drive, Amazon Web Service and Microsoft Azure are beneficial for organizations and end-users. Using Cloud computing and its services, organisation/end-users can store their data. There are multiple challenges while saving organisations highly confidential documents in servers. Hence, the objective of this paper is to provide a high-level design for a storage system maximising security and personal privacy. Though servers are highly protected against unauthorized access, there are incidents where confidential files stored on servers are accessed by the maintenance staffs. Hence this research paper provides introductory structure for fully protection of files stored in the server by using Hybrid Cryptosystem In this paper we are finding the sensitive information from the file and it should encode by the erasure encoding after that it's encrypted by the using MD5 for remaining data it should encrypted by the sha-1 then combined the data and stored into the cloud.

Keywords— Cryptography, Encryption, Decryption, Security

1. INTRODUCTION

The cloud is popular to store data and files due to the low costs, less maintenance and ease of access from any location. Apart from the private and public organizations, government services are looking for cloud based storage and services for their confidential data storage. Every cloud provider like Microsoft Azure, IBM, Amazon Web Services (AWS) and many others have provided their own technique to encrypt and decrypt the data. The cloud computing is widely used in private and public services organizations for storing huge amount of data which can be made available from any location. The usage of cloud is found in industry, military colleges, and private organizations. The data stored on the cloud is accessible by user authentication but for confidential access multiple layer of security is implemented. The algorithm of this multiple layer security is dependent on the level of privacy. To provide the solution to different levels of security, cryptography and steganography techniques are popular. Multiple algorithms must be incorporated to enhance the level of security in data storage. New technique, using symmetric key cryptography algorithm and steganography is proposed in this work.


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A Secured Encrypted Authenticated technique for Wireless Networks using Hybrid Cryptography

¹KBVK Nagasree, ²V Naresh Kumar Reddy

^{1,2}Assistant Professor, Dept. of Computer Science Engineering, Mahaveer Institute of Science and Technology, Hyderabad, India

Abstract -Nowadays wireless networks are becoming more popular and tremendously increasing due to various enhanced technologies. The major development in this technology is communicating via wirelessly where mobile nodes communicate with each other without use of any base station. These networks are called as mobile ad hoc networks (MANET'S). As communication is done wirelessly, these types of networks are prone to several kind of attack. Thus, providing security to wireless network is challenging. Encryption, authentication usually acts as a first line of defence while next intrusion detection system (IDS) acts as a second line of defence. Therefore in this paper by using hybrid cryptography we are enhancing more secure transfer of data. This paper also extends to provide and enhance security for replay attack and message tampering attack.

Key Words: plain text, cryptography, encryption, decryption, hybrid cryptography

1. INTRODUCTION

Nowadays, cryptography plays a major role in protecting the information of technology applications. Information security is an important issue, for some applications. Have the top priority such as ecommerce, e-banking, e-mail, medical databases, and so many more, all of them require the exchange of private information. Cryptography is the transformation of readable and understandable data into a form which cannot be understood in order to secure data. Cryptography refers exactly to the methodology of concealing the content of messages, the word cryptography comes from the Greek word "Krypton", that means hidden, and "graphics" which means writing. For example, let us consider a person named Alice a sender who wants to send a data message which has a length of characters to a receiver called Bob. Alice uses an unsecure communication channel. Which could be a telephone line, computer network, or any other channel? If the message contains secret data, they could be intercepted and read by hackers. Also they may change or modify the message during its transmission in such a way that Bob would not be able to discover the change. In this survey a various ways of encryption is viewed and have been compared, a lot of examples have been provided. Network security is a new and fast moving technology and as such, is still being defined. When considering the desired learning outcomes of such a course, one could argue that a network security analyst must be capable of analyzing security from the business perspective in order to adhere to recent security legislation, and from the technical perspective in order to understand and select the most appropriate security solution. Network security originally focused on algorithmic aspects such as encryption and hashing techniques. While these concepts rarely change, these skills alone are insufficient to protect computer networks. As crackers hacked away at networks and systems, courses arose that emphasized the latest attacks. Currently, many educators believe that to train people to secure networks, they must also learn to think like a cracker. The following background information in security helps in making correct decisions: Attack Recognition, Encryption techniques, Network Security Architecture, Protocol analysis, Access control list and vulnerability. For Network security



M. V. NARESH KUMAR REDDY
INSTITUTE OF SCIENCE & TECHNOLOGY
Bandlaguda, Hyd-500 085.

A Secured Encrypted Authenticated technique for Wireless Networks using Hybrid Cryptography

¹KBVK Nagasree, ²V Naresh Kumar Reddy

^{1,2}Assistant Professor, Dept. of Computer Science Engineering, Mahaveer Institute of Science and Technology, Hyderabad, India

Abstract -Nowadays wireless networks are becoming more popular and tremendously increasing due to various enhanced technologies. The major development in this technology is communicating via wirelessly where mobile nodes communicate with each other without use of any base station. These networks are called as mobile ad hoc networks (MANET'S). As communication is done wirelessly, these types of networks are prone to several kind of attack. Thus, providing security to wireless network is challenging. Encryption, authentication usually acts as a first line of defence while next intrusion detection system (IDS) acts as a second line of defence. Therefore in this paper by using hybrid cryptography we are enhancing more secure transfer of data. This paper also extends to provide and enhance security for replay attack and message tampering attack.

Key Words: plain text, cryptography, encryption, decryption, hybrid cryptography

1. INTRODUCTION

Nowadays, cryptography plays a major role in protecting the information of technology applications. Information security is an important issue, for some applications. Have the top priority such as ecommerce, e-banking, e-mail, medical databases, and so many more, all of them require the exchange of private information. Cryptography is the transformation of readable and understandable data into a form which cannot be understood in order to secure data. Cryptography refers exactly to the methodology of concealing the content of messages, the word cryptography comes from the Greek word "Krypton", that means hidden, and "graphics" which means writing. For example, let us consider a person named Alice a sender who wants to send a data message which has a length of characters to a receiver called Bob. Alice uses an unsecure communication channel. Which could be a telephone line, computer network, or any other channel? If the message contains secret data, they could be intercepted and read by hackers. Also they may change or modify the message during its transmission in such a way that Bob would not be able to discover the change. In this survey a various ways of encryption is viewed and have been compared, a lot of examples have been provided. Network security is a new and fast moving technology and as such, is still being defined. When considering the desired learning outcomes of such a course, one could argue that a network security analyst must be capable of analyzing security from the business perspective in order to adhere to recent security legislation, and from the technical perspective in order to understand and select the most appropriate security solution. Network security originally focused on algorithmic aspects such as encryption and hashing techniques. While these concepts rarely change, these skills alone are insufficient to protect computer networks. As crackers hacked away at networks and systems, courses arose that emphasized the latest attacks. Currently, many educators believe that to train people to secure networks, they must also learn to think like a cracker. The following background information in security helps in making correct decisions: Attack Recognition, Encryption techniques, Network Security Architecture. Protocol analysis, Access control list and vulnerability. For Network security



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Implementation of High Accuracy-based Image Transformation Module in Cloud Computing

A Nanda Gopal Reddy^a, Dr. Roheet Bhatnagar^b

^aResearch scholar, Dept of CSE, Manipal University Jaipur, Jaipur 303007, India


^bHead of Dept, Dept of CSE, Manipal University Jaipur, Jaipur 303007, India

Image Processing Domain may be the old but the techniques and algorithms which are generating day by day for next generation real time applications. It has a wide scope in the field of research. When this domain is implemented and operated over Cloud computing it will become the trends in the field of health care domain and intelligent systems. In this paper we are explaining the comparative strategical algorithm, which shows the sequence of acquisition, transformation, interpolation, filtering, edge detection and image recognition in cloud. It also discusses every stage how the data has been read and transformed from one phase to another phase. The comparative strategical architecture and a comparative study with the existing results.

Keywords: Digital Image Processing; Healthcare Domain; Cloud Computing

Introduction

Image processing techniques have been changing from the past few decades and the techniques of digital image processing have been revived in the last few years. Many of the algorithms have been developed to determine the object


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Title: A novel feature extraction approach for tumour detection and classification of data based on hybrid SP classifier

Authors: Nanda Gopal Reddy; Roheet Bhatnagar

Addresses: CSE Department, Manipal University, Jaipur, India ' CSE Department, Manipal University, Jaipur, India

Abstract: This paper deals with identifying the cancer affected region of the brain. Many tools and techniques such as self-organising map (SOM), Proximal Support Vector Machine (PSVM) classifiers etc. exist to find out the cancer affected region in the brain. But the rapid growth in brain tumour cases in recent past indicates that the existing technologies have failed to identify its root cause as identification is a complex process and recent studies also reveal that different types of brain tumours can be treated either through surgery or in rare cases, with radiation. Image segmentation helps in identifying brain tumours, by calculating the volume and the growth of the tumours using techniques like human edge correction, outer edge colouring and interactive threshold holdings. In order to reduce the human error and to get the accurate results in MRI images there is an urgent need to find out an automatic or semi-automatic method for the classification of brain tumour images. The paper presents a 'hybrid SP' classifier and discusses its results in the detection and classification of brain cancer.

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Cloud Based Medical Image Retrieval System-A Case Study on Apollo Hospital Management System

A Nanda Gopal Reddy, Dr.Roheet Bhatnagar

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Abstract: The Hospital Management Informatics Systems (HMIS) in current sectors are assimilated with digital information system which is intended to meet the imperative needs of hospital management systems with health care records of the patients which are modernized with reformed self-reliant systems running on cloud computing which is a organized system for retainment of information system. In the prior domain sector of hospital management system, the information integrated is of centralized system where the autonomous hospital were incapable to maintain the enormous cost raised for maintaining the resources and where incompetent to meet the patient's requisite. In this suggested scenario through a cloud based model the patients and the doctors are benefited with varied choices of examination in different departments and where the information is distributive and analysis of patient's records with doctors from different departments can be suggest and examine the patient record with experts. We proposed a effective solution for storing, analyzing and transmitting the image data thru Customized Cloud called ApolloOne.

Keywords: Medical Image, Cloud Computing, Hospital Management System.

1. INTRODUCTION

Cloud computing is nothing but a knowledge based paradigm that intended to provide the ultimate uses the option of ubiquitous access of information anywhere with less effort through internet. The pooled resources and software are organized persistently in a cloud system, where the ultimate user can approach and connect with the cloud through a minimum knowledge.

In additionally the cloud system provides the solutions for recurring needs of information technology and industrial demands for segregation of information render one domain. The cloud system shows new emerging solutions for all the requirements of IT through internet revolution which is also increased productivity drastically.

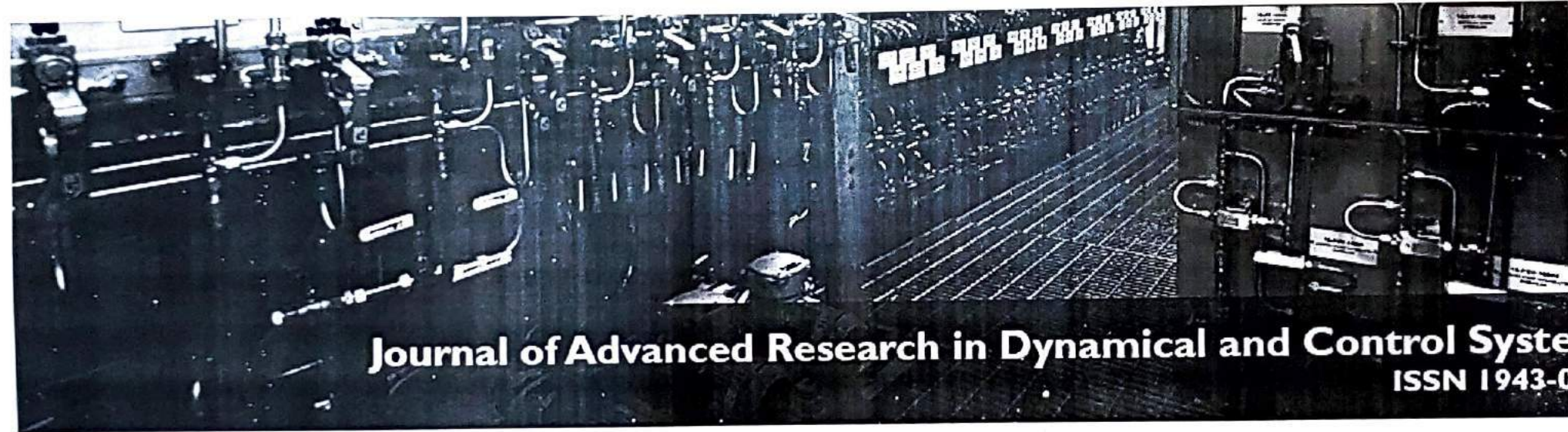
Cloud based systems emphasis on pay and uses the utility which brought change in the information technology.

The cloud system contribute to the constant needs of information system without any basic investment in the current domain and provides the high-end distributive information across global net fulfilling the needs of ultimate patients and doctors in hospital management system. In Figure 1 the layers of different cloud are discussed.

2. CONFLICTS IN TRADITIONAL HOSPITAL SYSTEMS

2.1 Insufficient Utilities for Sharing the Data in Various Domains

In the prior HIS system the various autonomous hospitals equipped with bulk number of medical equipments such as Ultrasound, CT, radiology, equipment etc. Generating huge number of storage data and encoding methods eventually the information is producing duplication of data and disuse of various resource. The system based Patient Record (PR) generated in varied hospitals lacks uniformity in different departments.



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Secure and Scalable Transformation of medical Imaging Data in Cloud using Customized Hospital based Management Systems

Nanda Gopal Reddy and Roheet Bhatnagar

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Abstract:

As more advanced medical imaging modalities and innovative emerging technologies are being used in patient care and medical research, the scope and volume of data and the complexity of associated analytics is increasing. As such, there is increasing need for new concepts, technologies and imaging informatics methods to aggregate, transfer, manipulate, analyze, manage, and visualize medical data for prediction, diagnosis, treatment, rehabilitation and research. There is a wealth of information within medical image data that is often difficult to mine effectively. One role of imaging informatics is bridging gaps between the scientific, diagnostic and therapeutic realms. This track focuses on methods for analyzing big data in medical imaging and informatics, emerging innovative imaging and informatics technologies, new research and applications of imaging informatics, and the next generation of PACS that will accommodate other imaging-rich clinical specialties and people to save their time and tension and money. Medical image processing is one of the most

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X-MAPPING AND IMPT TECHNIQUES FOR EXTRACTION OF HIDDEN IMAGE DATA IN DIFFERENT PARTS OF THE HUMAN BODY

¹A NANDA GOPAL REDDY, ²ROHET BHATNAGAR

¹Manipal University Jaipur, ²Manipal University Jaipur
Email: nandagopalreddy@gmail.com, rohct.bhatnagar@jaipur.manipal.edu

Abstract— In recent years, a revolutionary change has come in the field of image processing and its applications in the medical domain by implementing advanced techniques and procedures. This paper discusses standard procedures and improved techniques in the extraction of image data which are hidden in the narrow structures of bones and different parts of the human body.

Keywords—Image, Hidden data extraction, Narrow structure, bone

I. INTRODUCTION

In recent years, a revolutionary change has come in the field of image processing and its applications in the medical domain by implementing advanced techniques and procedures. In this paper, two techniques are discussed which are used to extract the hidden data in the narrow bone structures and at different levels of body. It is expected that, with these techniques, the cost of identifying and treating the diseases will get reduced. The first technique is X-mapping [1] and the second one is Intensity modulated proton therapy (IMPT). X-mapping mainly focuses on identifying the length and width of the affected area and IMPT [2] technique is mainly used to read the unstructured data in the continuous series. By using these techniques, doctors can easily read and diagnose the diseases. In X-mapping technique, a plot of region is identified, and on that region a pixel of high density value will be considered as the center point from where the x, y, z axis are started. These axis values cover the total affected area on the bone or any other parts of the body. Once the area is identified then IMPT (Intensity modulated proton therapy) technique plays the role in reading the unstructured data in that series by forming the image Pixel blocks, these blocks will collect the pixel values from low to high.

II. TECHNIQUES

A. MRI and CT image conversion

In every application and technique related to medical data it is mandatory to plot and read into either CT or MRI image format, so that after any algorithm the data is formed in a usable format. These steps are data acquisition, data translation and Image neutralization (i.e digitization). Data acquisition needs the scanning of the patient by any CT or MRI system. The quality of the finished model changes directly and indirectly with the accuracy of the system and resolution of

image data. Resolution of the image can be increased by decreasing the selected area. The longer scanning period required for a high-resolution scan must be weighed against increasing the patient's exposure to radiation, scan time and cost, and patient discomfort. New spiral CT-scan technology allows faster acquisition of smaller slice intervals compared to traditional scanners that must translate the patient for each transverse section. MRI systems do not generate X-ray radiation, and can provide scans of nearly any planar orientation. MRI does not exclusively focus on hard tissue, reducing its suitability in rare cases.

Translation of the scan data always presents a challenge. Here, the manufacturer's proprietary data storage format is converted into a standard image format. Since MRI/CT scanners produce an 8 to 12-bit grey-scale image [3], and most computer systems have standard 8-bit displays, some truncation of data normally occurs. Not all manufacturers' formats are published, making their scans impossible to translate. Fortunately, many scanner manufacturers now publish their scanner formats which should increase the usability of many MRI/CT scans.

Image neutralization, or segmentation, extracts the useful portions of the patient scanned image, greatly reducing the amount of data needed to describe anatomical features. Depending on the software used and the quality of the bone being segmented, automated digitization may be possible. However, manual segmentation is often required due to the inconsistent density of the patient's hard tissue. When metal implants are present, MRI/CT scatter occurs, causing create molds since the material is malleable to surgical equipment.

These are basic conversion steps for any type of image. After the introduction of the image conversions, now we will look into the techniques which are used to



Research Paper

On the Six Node Hexagon Elements for Continuum Topology Optimization of Plates Carrying in Plane Loading and Shell Structures Carrying out of Plane Loading

K.N.V. Chandrasekhar¹*, V. Bhikshma², S. Abdul Mohi³

¹ CVR College of Engineering, Hyderabad, Telangana, India

² Department of Civil Engineering, Osmania University, Hyderabad, Telangana, India

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Corresponding author: K.N.V. Chandrasekhar (Bunlikoralla1@gmail.com)

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& International Research Center for Mathematics & Mechanics of Complex Systems (M&MCS)

Abstract. The need of polygonal elements to represent the domain is gaining interest among structural engineers. The objective is to perform static analysis and topology optimization of a given continuum domain using the rational fraction type shape functions of six node hexagonal elements. In this paper, the main focus is to perform the topology optimization of two-dimensional plate structures using Evolutionary Swarm Intelligence Firefly Algorithms (ESIFA) and three-dimensional shell structures using optimality criteria. The optimization of plates carrying in plane loading is performed with minimum weight as objective. Two different types of shell structures are optimized using maximum strain energy as criteria. The optimal distribution of the material in the design domain obtained using six node hexagon elements is compared with the optimal distribution of material obtained using quadrilateral elements. A few problems from the literature have been solved and this study has proved that hexagon element gives better results over traditional quadrilateral elements.

Keyw ords: Six node hexagon, Topology, Shells, Firefly algorithms, Strain energy optimization, Weight optimization.

1. Introduction

The partial differential equations are useful to accurately formulate the problems of structural mechanics, electromagnetics, fracture, propagation of heat and sound, fluid flow and elasticity. It is well established that the triangular or quadrilateral elements were traditionally used to represent the domains. Sometimes it is very difficult to represent the domain using these elements and the need for a suitable element arises. Polygonal elements are one such great opportunity to model a multi-scale physical nature of the problem [1]. In his paper, the rational fraction type shape functions were proposed by Misako [2] was used to perform the structural analysis and perform topology optimization. Singh [1] has developed integration schemes for polygonal finite element method with Schwarz conformal mapping. In his study, he uses Wachpress shape functions to analyze the cantilever subjected to pure shear and pure axial tensile loads. He used pentagon and hexagon elements to analyze the structure. The pentagon and hexagon are represented by using five triangles and 39 integration points were used per triangle. The convergence in the strain energy versus the number of nodes was studied in detail. The extended finite element method based formulation is applied to analyze the plate having an edge crack under uniaxial loading. A comparison of convergence of stress intensity factors is studied between the responses with the quadrilateral mesh and the hexagonal mesh.

SECOND ORDER SENSITIVITY ANALYSIS AND FUNDAMENTAL FREQUENCY BASED OPTIMISATION TO PERFORM TOPOLOGY OPTIMISATION OF CONTINUUM STRUCTURES USING EVOLUTIONARY ALGORITHM

By

K. N. V. CHANDRASEKHAR *

D. V. TANUJA **

* ** Department of Civil Engineering, CVR College of Engineering, Hyderabad, Telangana, India.

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ABSTRACT

Frequency based topology optimisation of continuum structures is a topic of keen interest. The main focus of this study is to propose a new method to optimize the frequency of continuum structures and perform topology optimization. A new second order approach for principal stress based sensitivity analysis using Taylor series is proposed in this study. The design objective is achieved using the Solid Isotropic Material with Penalization and Evolutionary algorithm which is used to design the optimized relative density. The coding is done using C++ and the optimal distribution is analysed using Matlab for fundamental eigen frequency and mode shapes. The variation of normalised fundamental frequency with each iteration is studied. A few standard problems from the literature are solved and the results are compared and presented. The results show that the proposed principal stress based sensitivity analysis is quite efficient and effective compared to other methods.

Keywords: Principal stress, Sensitivity, Eigen Frequency, Topology, Structural Optimization, Continuum Structures.

INTRODUCTION

Optimization of fundamental frequency is an emerging topic of interest for structural engineers. The word fundamental natural frequency means the first natural frequency for the given distribution of material in the design domain. Optimization of frequency increases the stiffness of the structure and reduces the mass of the structure. A stiff structure is the one which has least displacements when certain boundary conditions are applied (Angulo et al., 1994). The displacements are measured to find the strain energy of a structure, where the strain energy is inversely proportional to the stiffness. The method is based on an iterative process of optimization that includes structural analysis by the Finite Element Method (FEM) (Kishinamrao, 1994). Sensitivity analysis and optimization techniques, the distribution of material must be effectively done to maximize the fundamental frequency. The structures with high

fundamental frequency tend to be reasonably stiff for all conceivable loads and hence the optimization of fundamental frequency results in designs which are good for static loads also (Kang et al., 1999).

This paper primarily deals with the sensitivity analysis and optimization of fundamental frequency to perform topology optimization of a plate element carrying in plane loading with the given boundary conditions. Several optimization methods such as the Homogenization method, the Solid Isotropic Material with Penalization (SIMP) method, the Evolutionary Structural Optimization (ESO) method (Lee, 2012), and its later version Bi-directional ESO (BESO), the level set technique have been developed in this context. Frequency optimization is of great importance in many engineering fields e.g. aeronautical and automotive industries (Kingman et al., 2014). When compared with a large number of papers for stress optimization, fewer papers have been published

STATIC ANALYSIS OF LAMINATED COMPOSITE PLATE USING SIX NODE LINEAR STRAIN TRIANGULAR ELEMENTS

By

K. N. V. CHANDRASEKHAR *

K. UDAYBHASKAR REDDY **

* ** Department of Mechanical Engineering, CVR College of Engineering, Hebbur, Bangalore, India

Correspondence: 08252024

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ABSTRACT

Composite materials is an emerging area of civil engineering. The conventional materials can be replaced with composite materials having light weight and increased strength. This study aims to perform a static analysis of laminated composite plate using six node linear strain triangular element. The shape functions are of the second degree which in practice represent the variation of displacement within the element. The coding for this study is done using ANSYS APDL. The literature available in the literature have been solved simply supported and clamped boundary conditions. The maximum cent of deflection for simply supported plate carrying a uniform distributed load using six node triangular elements is 0.44% when compared with the maximum cent of deflection of 0.49% using LDF18 element given in the literature. The cent of deflection show an improved result over the existing results by many current available in the literature. The deformed shape of the plate is presented. This study can be useful for the analysis of narrow domains where the use of quadrilateral elements is not feasible.

Keywords: Laminated Plates, Triangular, LSI Composite, FEM, Static

INTRODUCTION

Laminated composites is an emerging area of study in the field of Civil Engineering. The conventional materials can be partially or fully replaced with the laboratory fabricated laminate with the desired material properties. The conventional materials are replaced with laminated composites having lesser weight and higher strength. Six node triangular elements are useful to study the response of the structure with higher precision. The main objective of this paper is to apply the second order linear six node triangular LSI elements to perform a static analysis of a plate with different boundary conditions. The coding is done using ANSYS APDL.

Composite beams can be replaced with the laminated plate having high strength. Gurusamy et al. (2017) conducted the study on the application of FRP reinforcement for concrete structures especially in aggressive environments. This paper address a low strength of using FRP steel in concrete and discuss about design of reinforced concrete in the

area. The focus area of this study is to perform a static analysis of a laminated composite plate using six node linear strain triangle elements. Triangular elements can be very useful where the domains are narrow and the use of quadrilateral element is not feasible. Noda (1973) considered 2D plate theories and checked the validity under low frequency free vibration analysis of multilayered composite plates. He observed there was a sudden increase in fundamental frequency when the number of layers of laminate increased from 2 to 4 in the skew symmetrically laminated plates, and there was no change when increased further. Abdelaziz et al. (2014) studied geometrically nonlinear composite skew plates under free vibrations. The theoretical model is based on Hamilton's principle. They observed that with the increase in amplitude of vibration, there is an increase in the non-linear frequency and no change in the skew angle.

Reddy and Shukla (1987) investigated the effect of aspect ratio, side to thickness ratio on the critical buckling load and the first natural frequency. The first natural buckling

RESEARCH PAPERS

DESIGN OF REINFORCED CEMENT CONCRETE CORBEL AND PERFORM FREE VIBRATION AND BUCKLING ANALYSIS

By

RAHUL BHARADWAJ * MUBEEN KHAN ** KAMALNATH *** K. N. V. CHANDRASEKHAR ****

**** Department of Civil Engineering, Civil College of Engineering Hyderabad, Telangana, Andhra Pradesh, India.

Date Received: 10/05/2019

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ABSTRACT

The first role of a civil engineer is to perform design and analyze the structure before it is built. The structure should provide a safe and green environment to live in and will take up less cost. Corbels are one of the complex structural members where the load applied is eccentric. Corbels can carry heavy loads under the bridges and must be designed for buckling and vibration analysis. The main focus of this study is to perform the reinforced cement concrete corbel using Midas NX8 and perform the static, buckling and vibration analysis. The results show that the structure is safe in buckling and vibration. The buckling mode shapes and vibration mode shapes were presented. The topology optimization is performed to identify the areas which carry loading with minimizing compliance as objective function. The optimal distribution of the material shows a strut and tie model in the design domain.

Keywords: Corbel, Topology, Compliance, Frequency Buckling

INTRODUCTION

The study of the design of reinforced cement concrete structures is required to design an engineering structure. The first role of a civil engineer is to perform design and analyze the structure before it is built. The structure should provide a safe and green environment to live in, and will take up less cost. There are several components of a structure which are built to carry the loads safely to the ground underneath. Heavy structures such as bridges which can carry heavy loads require careful design and analysis. Corbels are one of the important components of such heavy structures, as they carry a heavy eccentric load. The load is not directly applied on to the column but applied on an eccentricity at the middle portion of the column. This makes the design more complex than the regular column carrying the vertical loading. The main focus of the study is to perform the design and analyze the corbel carrying heavy loading acting at an eccentricity. Corbels are subjected to moment and direct tension in addition to shear forces. The design should be able to resist a combination of both vertical and horizontal loading. The horizontal truss should be provided to resist

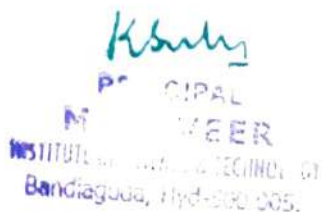
the diagonal tension in the concrete. The study is focused on designing the reinforcement layout for the corbel according to the IS code method. The design is further optimized using Midas NX8 finite element analysis package to perform the topology optimization using compliance as a objective function. The stress distribution within the corbel is studied and a strut and tie model is developed. The buckling analysis is also performed to determine the buckling load factor of the corbel. The model analysis is performed to determine the eigen frequencies and mode shapes of the corbel.

1. Objectives of the Study

- To perform topology optimization of corbel using Midas NX8
- To perform buckling analysis using Midas NX8
- To perform vibration analysis using Midas NX8

2. Scope of the Study

- The study is performed within the linear static elastic limits.
- The material is homogeneous, isotropic and obeys Hook's law.



A STUDY OF FREE VIBRATION AND FORCED VIBRATION CHARACTERISTICS OF LAMINATED COMPOSITE ELLIPTICAL PARABOLOID SHELLS

By

KONDAPALLI V. SUMALA *

K. N. V. CHANDRASEKHAR **

* Department of Civil Engineering, CVR College of Engineering, Hyderabad

E-Mail: Kondapalli.v@cvr.edu.in

Date Received: 30/04/2020

Date Accepted: 23/05/2020

ABSTRACT

The study on laminated composite material is one of the emerging area of Civil Engineering. Laminates with the desired properties can be used as an alternative material instead of conventional materials such as steel and concrete. The research in focuses on the study of free vibration and forced vibration characteristics of laminated elliptical paraboloid shell. The linear shell theory are elements having 8 nodes is used in the formulation. The fundamental frequencies of the vibrations were determined for different geometry ratios, support conditions, and different laminations. The result obtained for free vibration analysis are compared with those in the literature given by Chidambaram using eight noded quadrilateral elements. Forced vibration analysis performed for three different types of loading. The deformed shape and the selected node displacement results were presented. For an LPS having SSSS boundary condition, it is observed that for a given set of geometry ratios (45/45, 45/45) lamination has the highest NDF and least deflection showing highest stiffness over any other lamination. For an LPS with the case of CCCC boundary condition, it is observed that for a given set of geometry ratios (45/45) lamination has the highest NDF and the lowest deflection showing the highest strength.

Keywords: Laminated, Vibration, Composite, Free Vibration, Forced, Shell.

INTRODUCTION

Laminated composite materials is one of the emerging area in the field of Civil Engineering. Now-a-days, several types of composite materials are available in the market to replace either partially or fully the conventional materials such as concrete and steel. This research study is mainly focused on the vibrational characteristics of different kinds of laminates. In this study, the most commonly used form of a structure, a shell is examined. The vibrational response of a laminated elliptical paraboloid shell studied in detail.

The elliptical paraboloid shells are both structurally stiff and architecturally acceptable due to their surface geometry. Different aspects of study such as buckling, bending, impact, forced and free vibrations, etc., are required for the analysis of elliptical paraboloid shell. Such a paraboloid shell falls under the category of curved shell. Synclastic shells are shells having the

curvatures on the same side of the surface. Synclastic shells are divided into Surface of revolution and Surface of translated surfaces. Elliptical paraboloid as shown in Figure 1 being to the surface of the translation which means the surfaces are generated through sliding a plane curve along another plane curve by keeping the orientation of sliding curve constant.

Reddy and Chandrasekhara (1988) investigated on dynamic and shear deformation of laminated doubly curved shells. The investigation continued the transient responses of spherical and cylindrical shells using finite element analysis. Free vibration analysis for elliptical paraboloid shell, hyperbolic paraboloid shell, conical shell were presented by Chidambaram et al. (1996) using 8 noded curved quadrilateral isoparametric finite element. Nath and Shukla (2001) presented an excellent paper on nonlinear transient responses on shear deformable laminated composite plates and the formulation is based

CHALLENGES OF MUNICIPAL SOLID WASTE MANAGEMENT IN HYDERABAD METROPOLITAN CITY

Dr. NUVASANTHA LAXMI

Associate Professor

Department of Civil

Mahaveet Institute of Science and Technology, Hyderabad, Telangana

vasuadinem@gmail.com

Abstract:

Municipal solid waste management is a big challenge to every municipality in India up to now. According to constitution amendment Act of 1992, urban local bodies (ULBs) are accountable for maintenance of cities and towns clean. So ULBs adopted different methodologies in cities but still finding it as challenging task because of insufficient infrastructure, institutional loopholes, lack of funds by all ULBs, other reasons were increasing population, changing habits of people, buying capacity, modern life style, lack of awareness, political reasons for failures in strict implementation of policy. Because of these constraints most of the municipalities encouraging private sector participation in MSW management but still finding challenging by municipalities especially Hyderabad municipal corporation. So in this manuscript we try to get better solutions for MSW management by surveying on above said issues.

waste (MSW), after industrial revolution and urbanization MSW become a main difficulty for all ULBs in 19th century. Because of increasing population in metropolitan cities, increasing buying capacity of citizens in metropolitans leads to increasing of shopping malls, restaurants, for easy carrying purpose non biodegradable plastic covers usage, use and through habit of people, as a status symbol buying of new models or latest market entry products without requirement, less availability of land for the dumping of waste. All together rapid increment in the amount of MSW and also changes in the characteristics of MSW.

MSW is properly managed by following steps

1. Suitable separation of MSW at source i.e. is at house hold level, commercial level etc.
2. Proper storing at convenient point to transport
3. Proper transportation vehicles, paths without spillage.
4. Recovery technologies, waste volume reduction

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M. S. MEER
INSTITUTE OF SCIENCE AND TECHNOLOGY
Banjara Hills, Hyd-500 005.

STRENGTH PROPERTIES OF RECYCLED AGGREGATE CONCRETE - CONVENTIONAL CONCRETE AND SELF - COMPACTING CONCRETE

B VARALAXMI

Assistant Professor in Civil engineering Department at Mahaveer Institute of Science and Technology, Bandlaguda Hyderabad Email id varalaxmi@rediffmail.com

CH HEXIALATHA¹

Assistant Professor in Civil engineering Department at Mahaveer Institute of Science and Technology, Bandlaguda Hyderabad Email id hexialatha.cheluvu@gmail.com

ABSTRACT - The objective of the present investigation is M30, M40 grade concrete has been considered. Compressive strength and Flexural strength of conventional as well as self-compacting concrete were investigated. The development of their strength with different age curing is investigated. The properties of recycled aggregate differed from those natural aggregate. For the production of concrete for both conventional and self-compacting concrete these recycled aggregate are replaced by normal concrete always in ascending order of 10%, 20%, 30%. However these changes did not affect the properties of the recycled aggregate both in the normal case and in the self-compaction of the concrete. However in the case of self-compacting concrete, it has been observed that the quality of the concrete deteriorates after a certain percentage of recycled aggregate with natural aggregate. The high water absorption of the recycled aggregate is ensured by the process before using whereby the recycled aggregate becomes functional as a natural inert substance.
Keywords: Compressive strength, Tensile Strength, Flexure Strength

INTRODUCTION

The world is making rapid development in the field of science and technology where this system depletes natural resources due to its high use. A lot of environmental pollution is caused by excessive use of resources.

In recent years, mitigation of this

resources, many researchers have designed to use recycled materials in the manufacturing such as fly ash and recycled aggregated materials. Over the past few decades, a number of research projects have been carried out to assess the material and durability of aggregates. As a result, there has been significant progress in the incorporation of mixed materials as building blocks with RAC members. Compared to natural mixtures, mixtures generally have water extraction and porosity, low strength and low density. For this reason, the RAC operating system achieves greater physical and material efficiency compared to the conventional aggregate (NAC), which includes low performance and poor performance. For 100% composite materials, the compressive strength of the RAC was reduced by 9-40% according to the experimental design.

According to the report, from this world it is estimated that 10 billion tons are produced annually and 1 billion tons are produced annually by a single construction company due to structural damage. As the composition of 70% of the aggregates, the aggregation of the elements from the aggregate aggregation

PRINCIPAL
M. H. VEER
INSTITUTE OF SCIENCE & TECHNOLOGY
Bandlaguda, Hyd-500 005.

STRENGTH PROPERTIES OF RECYCLED AGGREGATE CONCRETE - CONVENTIONAL CONCRETE AND SELF - COMPACTING CONCRETE

B VARALAKSHI

Assistant Professor in Civil Engineering Department
Maddur Institute of Science and Technology, Bangalore
E-mail: varalakshib@rediffmail.com

CH HEMALATHA

Assistant Professor in Civil Engineering
Department of Maddur Institute of Science and
Technology, Bangalore
E-mail: chhemalatha@rediffmail.com

ABSTRACT The objective of the present investigation is M30 grade concrete has been considered. Compressive strength and Flexural strength of conventional, as well as self-compacting concrete was investigated. The Development of such concrete is different age of curing investigated. The properties of recycled aggregate differed from those natural aggregate. For the production of concrete for both conventional and self-compacting concrete, the recycled aggregate are replaced by normal concrete weight in ascending order of 10%, 20%, 30%. However, these changes did not affect the properties of recycled aggregate within the normal case and in the self-compaction of the concrete. However, in the case of self-compacting concrete it has been observed that the quality of the concrete deteriorates after a certain percentage of recycled aggregate with natural aggregate. The high water absorption of the recycled aggregate is caused by the presence of the wetting whereby the recycled aggregate become functional as a natural inert substance.
Keywords: Compressive strength, Tensile Strength, Flexural strength.

INTRODUCTION

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PRINCIPAL
MADHUR
INSTITUTE OF SCIENCE & TECHNOLOGY
Bangalore, Hyd-500 005.



THE STUDY OF DEMOLISHED MATERIAL IN CIVIL CONSTRUCTION AT AMBERPET AREA, HYDERABAD, TELANGANA

CH.SWETHAMBER

Asst prof
Mahaveer institute of science and
technology
swetham.cheruku@gmail.com

G PRABHAKAR

Assoc prof
UCS saulabad Hyderabad

ABSTRACT

Most waste materials are generated by urbanization and rapid construction. This waste causes huge financial loss to builders and contractors. Waste material causes effects on health and the general environment. **Page 1 of 5**
demolished materials in India biggest problem for

INTRODUCTION

The building or construction industry involves different processes and utilizes huge quantities of resources. According to hoarsely (2003) demolished waste processes impacts on environment. **Page 1 of 5**
recovery of raw materials will achieve more during the construction process. Mostly wastage


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MANAGER
INSTITUTE OF SCIENCE & TECHNOLOGY
Bandlaguda, Hyderabad-500 005.

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A REVIEW ON PERFORMANCE EVALUATION OF PELTON TURBINE

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AGGREGATE WITH CERAMIC TILES IN CONCRETE.

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University of Anveshana

Website: www.anveshanaindia.com

Email Id: info@anveshanaindia.com


M. A. P. S. R.
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Bandalaguda, Hyderabad-500 005

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Website: www.anveshanaindia.com

Email Id: anveshanaindia@gmail.com



PRINCIPAL
ANVESHANA
INSTITUTE OF SCIENCES
Gandlaguda, Hyd-500 082



PARTIAL REPLACEMENT OF COARSE AGGREGATE WITH COCONUT SHELLS PIECES IN CONCRETE

MAMIDI SAI KUMAR SAGAR

Assistant Professor
Department of Civil Engineering
Mahaveer Institute of Science and
Technology
sagarsai64@gmail.com

B RAMANA KUMAR

Assistant Professor
Department of Civil Engineering
Mahaveer Institute of Science and
Technology
ramanaaarw@gmail.com

ABSTRACT

The high cost of conventional construction material affects economy of structure. With the increasing concern over excessive exploitation of natural aggregates, synthetic lightweight aggregate produced from environmental waste is a viable new source of structural aggregate material. It is becoming more difficult to find natural resources. Therefore the coconut shell as partial replacement for coarse aggregate in concrete is studied. The density, slump and compressive strength of concrete are tested. The replacement of coarse aggregate by coconut shell by 0%, 5%, 15%, 20% and 25%. The tests were carried out and the results carried out and the results obtained suggested that the replacement more than 20% leads to lightweight aggregate concrete. The slump found out to be increases as the percentage replacement increased. Similarly the density is reduced as the percentage replacement increased. The compressive strength found to be decreases as the percentage replacement increases.

INTRODUCTION

The three basic needs of man are food, clothing and shelter. Civil Engineer has relevance with all basic needs of man directly or indirectly. Man has progressed a

lot in developing the method of constructing shelter. Initially man used to stay in huts and time passed it developed into house that is load

bearing. Concrete is an engineered material which is most widely used in the construction world today. The popularity of concrete is due to its strength durability and low maintenance cost.

Concrete is no longer a material consisting of cement, aggregates, water and admixtures but it is an engineered material with several new constituents performing satisfactorily under differently exposed conditions. The method of specifying a concrete

according to its performance and requirement, rather than its constituents and ingredients for producers of concrete so as to suit their specific requirements.

PARTIAL REPLACEMENT OF COURSE AGGREGATE WITH COCONUT SHELLS PIECES IN CONCRETE

MAMIDI SAI KUMAR SAGAR

Assistant Professor
Department of Civil Engineering
Mahaveer Institute of Science and
Technology
sagarsai64@gmail.com

B RAMANA KUMAR

Assistant Professor
Department of Civil Engineering
Mahaveer Institute of Science and
Technology
ramanaaarw@gmail.com

ABSTRACT

The high cost of convectional construction material affects economy of structure. With the increasing concern over excessive exploitation of natural aggregates, synthetic lightweight aggregate produced from environmental waste is a viable new source of structural aggregate material. It is becoming more difficult to find natural resources. Therefore the coconut shell as partial replacement for coarse aggregate in concrete is studied. The density, slump and compressive strength of concrete are tested. The replacement of coarse aggregate by coconut shell by 10%, 5%, 15%, 20% and 25%. The tests were carried out and the results carried out and the results obtained suggested that the replacement more than 20% leads to lightweight aggregate concrete. The slump found out to be increases as the percentage replacement increased. Similarly the density is reduced as the percentage replacement increased. The compressive strength found to be decreases as the percentage replacement increases.

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according to its performance and requirement, rather than its constituents and ingredients for producers of concrete so as to suit their specific requirements.

Cubic B-splines for Isogeometric Analysis of Laminated Composite Plates Subjected to Hygroscopic Loading Using Classical Laminated Plate Theory

K NV Chandrasekhar, V. Bhikshma, Madhusudhana Chary, Maduri Venkat Sai

Abstract

Composite laminates are inevitably used in several engineering structures due to their high strength and stiffness to weight ratio. The laminates are subjected to change in moisture content and the flexural behavior leads to change in the strength. Presence of moisture may induce residual stresses and strains. Isogeometric analysis is a well-proven method to perform analysis of laminated composite plates. The main focus of this study is to apply isogeometric analysis to determine the flexural response of a simply supported laminated plate having different lamina subjected to a change in moisture content of 1.5%. Classical laminated plate theory without including shear deformation is applied to thin plates in this study. Cubic b-splines were used to model the geometry of the plate. Four different cases of lamina, two symmetric cases which are 0/90/90/0 and 45/-45/-45/45 and two anti-symmetric cases of lamina which are 0/90/0/90 and 45/-45/45/-45 have been considered in this study. The bending characteristics of the thin plates which are deformed profile of the laminate along with the distribution of strain energy are shown. The maximum and minimum bending moment are calculated. The results obtained using isogeometric analysis are in good agreement with those results given in the literature obtained using finite element analysis performed with six node linear strain triangular elements.

Keywords

Hygroscopic, Cubic b-splines, Laminates, Simply supported, Symmetric, Anti-symmetric

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Bandlaguda, Hyd-500 005.

Isogeometric Analysis for Topology Optimisation of Two Dimensional Planar and Laminated Composite Plate Continuum Structures

K. N. V. Chandrasekhar¹, A. Bhukhama², N. Rakesh¹, S. Reddy¹, C. Rakesh¹

¹Department of Civil Engineering, CVRCE, Hyderabad, India
²Advanced College of Engineering, Chennai University, Hyderabad, Telangana, India

Received on May 2021, accepted on May 2021

ABSTRACT

Isogeometric analysis is the recent development in the field of engineering analysis with high performance computing and greater resources. This current research has opened a new door in the field of structural optimization. The main focus of this research study is to perform topology optimization of continuum structures in civil engineering using isogeometric analysis. The continuum structures analysed here in this study are reinforced concrete, steel and laminated composite plates. Reinforced concrete is a rational union of concrete and steel. Topology optimization of reinforced concrete structures is an emerging area of study to determine the optimal layout of material in the concrete domain. Laminated structures are made of several layers of material and bonded to achieve high stiffness and low weight to strength ratio. The delimited shape at the optimal state can be determined with topology optimization of laminated composites. The formulation for composite plates is done using Kirchhoff thin plate theory without any shear contribution. B-splines are used to model the geometry. The objective is to optimize the energy of the structure and optimum criteria is used to calculate the better values of relative densities. First order sensitivity analysis is performed to determine the better values of objective function. The code is written in Matlab and a few problems have been solved with different domains. The results are verified and have shown a good agreement with those in the literature. © 2021 IAU, Arak, Brazil. All rights reserved.

Keywords: Reinforced concrete, Isogeometric, Topology Optimization, Laminates

1. INTRODUCTION

REINFORCED concrete structure is a rational union of concrete and steel combined to act jointly. The joint action of concrete reinforced by steel bars in a reinforced concrete section will carry the loads and transfer them to the supports [1]. The arrangement of steel within the concrete has to address the nature and magnitude of the stresses produced within the material domain. This arrangement of steel has to be a valid arrangement and should

¹Corresponding author

²and authors have equal contribution (K. N. V. Chandrasekhar)

K. N. V.

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MAHARAJA
INSTITUTE OF SCIENCE AND TECHNOLOGY
Bandlaguda, Hyderabad-500 080

RESEARCH PAPERS

A STEP BY STEP PROCEDURE TO PERFORM HYGROSCOPIC ANALYSIS OF LAMINATED COMPOSITE PLATE USING SIX NODE LINEAR STRAIN TRIANGULAR ELEMENTS WITH CODING IN FORTRAN®

By

K. N. V. CHANDRASEKHAR *

CH. MADHUSUDHANA CHARY **

* **Department of Civil Engineering, CVR College of Engineering, Hyderabad, Telangana.

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Date Accepted: 06/08/2021

ABSTRACT

The applications of composite materials in civil engineering cannot be underemphasized due to their high strength to weight ratio. The laminates are exposed to moisture variations and are often the predominant reason for failure of composite structures. Moisture distributed throughout the volume of the structure may induce residual stresses and extensional strains. Cutouts are often made to lighten the structure for ventilation and accessibility for inspection to other parts of the structure. When the laminates with cutouts are subjected to changes in moisture content the deformation and stress concentrations are observed which may result the laminate to detach from the structure. The present study is focused on the bonding characteristics of plates and shell laminates having different lamina and different boundary conditions subjected to change in moisture content. The formulation is done using six node second order linear strain triangular elements. A standard SSSS plate problem is analyzed and the results are validated.

Keywords: Hygroscopic, Bonding, Linear Strain Triangle, Plate, Laminates

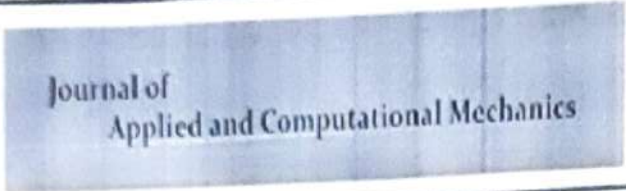
INTRODUCTION

The use of laminated structures namely plates and shells is inevitable for many engineering structures in the recent past. Laminates are used in ships, aircraft, missiles, automobiles, mining equipments, railway wagon, and civil structures. The advantages of light weight, high strength, stability, corrosion resistance, ease of fabrication (Behara et al., 2018) and desired mechanical properties have increased the application of laminates at an affordable cost. The laminates are glued to the surface of concrete using an adhesive due to which the fibres in the laminates can carry the load and increase the load carrying capacity of the entire structure. The use of cutouts in laminates allows the engineer to inspect the structure, perform maintenance, draw access ports for mechanical systems, providing openings for doors and windows and so

on (Brettreich, 2009). The practicalities of using laminates require cutouts to be provided. The response of the laminates subjected to mechanical and thermal load changes when a cutout is provided in the continuum. Laminates are used at the bottom plate for some passage of liquid in liquid retaining structures (Shardwal et al., 2015). Laminates are glued to the stiff of the bridge decks (Park & Park, 2017). It is well known that these laminates are exposed to unstable changes in moisture content which may change the response considerably. Hence there is a need to study the behavior of laminated composite structures with cutouts precisely (Nadarajan et al., 2014).

Composites are subjected to different environmental conditions during the service life. Change in moisture content and temperature have an adverse effect on the

K. Subh
PRINCIPAL
MAHARAJA
INSTITUTE OF SCIENCE & TECHNOLOGY
Bandlaguda, Hyderabad-505005.



Research Paper

Topology Optimization of Laminated Composite Plates and Shells using Optimality Criteria

K.N.V. Chandrasekhar¹, V. Bhikshma², K.U. Bhaskara Reddy³

¹ Department of Civil Engineering, CVR College of Engineering, Hyderabad, Telangana, India, Email: kncv1982@gmail.com
² Department of Civil Engineering, Osmania University, Hyderabad, Telangana, India, Email: vbhikshma@yahoo.co.in
³ Department of Civil Engineering, CVR College of Engineering, Hyderabad, Telangana, India, Email: kbhaskara@gmail.com

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Corresponding author: K.N.V. Chandrasekhar (kncv1982@gmail.com)
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& International Research Center for Mathematics & Mechanics of Complex Systems (M&MCS)

Abstract. Laminated composite materials have the advantage of desired properties and are vastly replacing the existing traditional materials in Civil Engineering construction. In the present study, it is aimed to extend the study on the analysis of laminated composite plates and shells towards structural optimization. Topology optimization is performed using two different objective functions namely strain energy and fundamental frequency. The results of optimization have shown clearly that the objective functions are dependent on the laminate. The optimal arrangement of material is obtained after using a cut-off distribution of material. It is confirmed to be a well-connected grid and is examined in detail. The results have shown that the optimal arrangement of material for a simply supported plate carrying a uniformly distributed load is at the centre of the edges and not towards the corners. Hence, the optimal arrangement of beams using strain energy is to align by joining the centre of the edges similar to plus (+) sign.

Keywords: Laminates; Composite; Plate; Strain energy; Fundamental frequency; Topology optimization.

1. Introduction

Laminated composites are one of the latest areas in the field of materials wherein the desired properties of the material can be obtained. Over the last few years, laminated composites are finding their applications in Civil Engineering structures such as the deck of a bridge, composite steel to substitute the metallic steel which is normally utilized in several structures. This study is mainly concentrated on topology optimization of laminated composite plates.

After reviewing the literature, we found that some amount of work has been done in the field of laminated composite plates to determine non-dimensional fundamental frequencies. There is no existing literature related to topology optimization of laminated composite plates. The goal of this research work is to determine the optimal distribution of material with strain energy and fundamental frequency as an objective function. This study is performed to extend the field of analysis of laminated composite plates towards structural optimization.

Section 2 discusses the literature review on the free vibration analysis of laminated composite plates. Section 3 presents the methodology to perform this study. In section 4 the theoretical background is presented. Section 5 discussed the problem statement in this study, we perform the topology optimization of laminated composite plates using two different types of objective functions. The first objective function is to optimize strain energy of the structure and the second objective function is to optimize the fundamental frequency of the structure. In section 6, analysis is performed with different types of lamina and one kind of geometry. The analysis is done using the finite element method and the meshing of the domain is performed using first-order four-node quadrilateral elements. The optimization is done using optimality criteria as the optimizer. Section 7 presents the conclusion along with the future study. In the end, the list of references used to conduct this study is provided.

1.1 Objectives of this study

To perform topology optimization of laminated composite plates and shells using strain energy as an objective function. To perform topology optimization of laminated composite plates and shells using fundamental frequency as the objective function.

1.2 Scope of the study

1. This study is limited to linear elastic analysis only. 2. This study does not include a buckling analysis. 3. This study does not include hygrothermal effects.

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K. N. V.
PRINCIPAL
RESEARCH OFFICER
INSTITUTE FOR MATHEMATICS & MECHANICS
Bandlaguda, Hy-500 005.

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From

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Hyderabad, Telangana, India**

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Authored by :

B. VARALAXMI, Assistant Professor

From

**Mahaveer Institute of Science and
Technology, Bandlaguda, Hyderabad, India**

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FREE VIBRATION ANALYSIS OF LAMINATED COMPOSITE CONOIDAL SHELLS USING SIX NODE LINEAR STRAIN TRIANGLE ELEMENTS

By

SRIRAM SOWMYA *

K. N. V. CHANDRASEKHAR **

** Department of Civil Engineering, CVR College of Engineering, Hyderabad, India.

Date Received: 02/06/2019

Date Revised: 04/09/2019

Date Accepted: 27/10/2019

ABSTRACT

Laminated composites are one of the evolving materials in the field of civil engineering construction materials. The main focus of this study is to perform free vibration analysis of laminated composite conoidal shells. The formulation is done using six node linear strain triangle elements. Finite element coding is done using Fortran to form the global stiffness matrix and global mass matrix. The non-dimensional fundamental frequencies and corresponding mode shapes are determined using Matlab®. Several problem cases with different boundary conditions, varying the geometry curvature ratio and several types of laminas were used to conduct this study. The results are then compared with those given in the literature. The non-dimensional fundamental frequencies obtained using six node linear strain triangle element are in good agreement with those given in the literature using eight node quadrilateral elements. The fundamental frequency increases with the increase in the number of constraints and the case of lamina 45/45/45/45 gave the highest frequency for most of the boundary conditions.

Keywords: Laminated Shell, Conoidal, Free Vibration, FEM, Composite, Linear Strain Triangle.

INTRODUCTION

Laminated Composites

Materials are combined to produce the properties, which are not present in any individual components having different properties, are joined together. Composite lamina is an assembly of lamina of fibrous materials to provide required engineering properties. Lamina is prepared by arranging fibres on a matrix, which gives different elastic properties for different lamina. This material is transversely isotropic (special kind of orthotropic material). The use of laminated composites to fabricate shells became preferred to civil engineers from second half of the last century. The reasons were high strength to their low weight, low cost of fabrication, and better durability. Moreover, the stiffness of laminated composites can be varied by varying the fibre orientations and lamina thicknesses, which gives designer flexibility. As a result,

laminated shells were found more cost effective compared to the isotropic ones as application of laminated composites to fabricate shells reduces their mass induced seismic forces and foundation costs.

Types of Laminated Composites

Discontinuous, Fiber reinforced Composite - A composite material which consists of chopped fibres or whiskers embedded in the matrix material.

Fabric Reinforced Composite - A composite material in which the embedded fiber assembly consists of a fabric which may be woven, knitted or braided.

Fiber Reinforced Composite - A composite material which consist of embedded continuous/discontinuous fibers in a matrix material.

Fibrous Composite - A composite material reinforced by continuous fibres embedded in a matrix material.



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Journal of Aerospace Engineering & Technology

A Comparative Study on Evolutionary Algorithms to perform Isogeometric Topology Optimisation of Continuum Structures using Parallel Computing

Dr. Sangeetha S. S. Srinivasan, T. Muralidhara Rao

Abstract

The computational performance along with the topology optimization of structures is the main focus of this study. The computational performance of the program is enhanced using two search engines in parallel. The search process is done using a least 600 iterations which has reduced the number of computations required to optimize the objective function. The geometry can be exactly represented using isogeometric basis functions where the same basis is used to represent the geometry and calculate the response of the structure. Finite element analysis is used to conduct this study along with the metaheuristic swarm intelligence algorithms such as firefly and Aquila algorithms. The optimization is performed using evolutionary optimization process and metaheuristics have consistently been in use to optimize the distribution of material within the design domain. Few basic problems are optimized in this study and the results are compared. This study aims to make an attempt to reduce the computational effort and use newer ways to perform the topology optimization of continuum structures.

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Department of civil engineering ,Mahaveer institute of science and technology, chandrayanagutta ,Hyderabad, India


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Date of Conference: 16 December 2018

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Mr. G. Anand Kumar, Ph.D. Post Graduate Department of Civil Engineering, Mahaveer Institute of Science & Technology

Mr. S. Anand Teja, Ph.D. Post Graduate Department of Civil Engineering, Mahaveer Institute of Science & Technology

for their participation and publication of the paper titled "Synthesis of Partial Replacement of Natural Sand with Recycled Glass and Ceramic" in the International Journal of Engineering and Technology, Volume 10, Issue 10, October 2018, published by World Scientific, Technological and Research Academy, India.

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Mr Muske Srujan Teja, Assistant Professor, Department of Civil Engineering, Mahaveer Institute of Science and Technology

have participated and Published a paper titled "**Study the Effect of Partial Replacement of Natural Sand with Robo Sand**" in the Second International Conference on Recent Innovations in Engineering and Technology (ICRIEAT-2017) organized by **Aurora's Scientific, Technological and Research Academy**, Hyderabad, held on 21st & 22nd of August 2017 at Marriott Hotel, Hyderabad

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Mr. Parasa Anil, Assistant Professor, Department of Civil Engineering, Mahaveer Institute of Science and Technology, Hyderabad and

Mr. Myske Srijan Teja, Assistant Professor, Department of Civil Engineering, Mahaveer Institute of Science and Technology, Hyderabad.

have published and presented a paper titled "Study the Effect of Partial Replacement of Natural Sand with Robo Sand" in the Second International Conference on Recent Innovations in Engineering and Technology (CRIEAT-2017) at 2017 by Aurora's Scientific, Technological and Research Academy, Hyderabad, held on 21 & 22 October 2017 at Marri Hotel, Hyderabad.

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Mr Panasa Anil, Assistant Professor, Department of Civil Engineering, Mahaveer Institute of Science and Technology, Hyderabad and

Mr Muske Srujan Teja, Assistant Professor, Department of Civil Engineering, Mahaveer Institute of Science and Technology,

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Dr Jenifa Datha C

Principal, Mahaveer Institute of Science and Technology

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Dr SriLatha Chepure

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RESEARCH PAPERS

OPTIMISATION OF STEEL TRANSMISSION TOWER STRUCTURE USING FIREFLY ALGORITHM

By

A. ANVESH REDDY *

CH. NAVEEN KUMAR **

K. AMINASH REDDY ***

K. N. V. CHANDRASEKHAR ****

*** B.Tech Student, Department of Civil Engineering, O.P.J.S. College of Engineering, Hyderabad, India.
**** Assistant Professor, Department of Civil Engineering, O.P.J.S. College of Engineering, Hyderabad, India.

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ABSTRACT

Transmission towers have been playing an important role in the power sector. This study is focused on optimizing the steel transmission towers using firefly algorithm. Metaheuristic algorithms have been widely in use during the recent past. The design of cross sectional areas of the members is modeled as a continuous variable to determine the optimal values. A new approach is designed to perform optimization process. This study does not include using IS (Indian Standard) steel section from the steel tables. The prior linear static analysis of the steel towers conducted first and the linear buckling analysis conducted using Midas FEA (Finite Element Analysis). The maximum stresses and displacement in the tower are compared against the allowable stresses and displacements. The positive buckling load factors were determined and the mode shapes were plotted. IS 800 code checks were performed and the results presented towards the end.

Keywords: Transmission towers, Firefly, Structural Optimization, Buckling

INTRODUCTION

Transmission towers are an important unit of power transmission from the source to the domestic grid. The cost of transmission towers constitute about 28-40% of the total cost [1]. They carry heavy transmission conductor of a sufficient height above the ground. The design of transmission tower is an important engineering job where civil, mechanical, electrical concepts are applicable [7]. A tower transmission tower consists of the following parts beginning from the top - peak, cross arm, boom, cage, body, etc., stub and anchor bolts. These towers carry high voltage and should have a safe height.

1. Objectives

The objective of this study is to perform optimization of steel transmission towers using firefly algorithm. The cross sectional areas are modeled as continuous variables. A new approach of stress based optimization of cross sectional areas of each member of the steel tower. Also to perform buckling

analysis and calculate the buckling load factor and mode shapes.

2. Scope of the Study

- The study is limited to linear static analysis only.
Hooke's laws obeyed.

3. Literature Review

The responsibility of the engineer is to produce safe and economical designs following the standard design codes [3]. The economical design can be obtained by adopting a suitable optimization approach. The science of finding the best design from the best possible designs at a lower cost and achieve the functional performance as well is known as optimization. Several mathematical models are developed and meta heuristics, such as Particle Swarm Optimization [2], firefly algorithm which are inspired from literature are useful for several engineering designs. Several designs of transmission towers were proposed in the past using different approaches. Mohammed et al. [5]

K. N. V. CHANDRASEKHAR
PRINCIPAL
MAHARAJA
INSTITUTE OF SCIENCES
BANDIPOGUDA, HYD-500 005.

BENDING CHARACTERISTICS OF REINFORCED
CONCRETE BEAMS

By

U. SAI SANDEEP *

T. MURALIDHARA RAO **

K. N. V. CHANDRASEKHAR ***

* GET, Shapoori Patil Construction Limited, Hyderabad, India

** Professor & Head, Department of Civil Engineering, CVR College of Engineering, Hyderabad, India

*** Assistant Professor, Department of Civil Engineering, CVR College of Engineering, Hyderabad, India

Date Received: 28/08/2017

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ABSTRACT

To avoid sudden and brittle failure of bending members, the Indian Standard Code prescribed limits on the minimum and maximum values of longitudinal reinforcement ratios. In the present paper, a computer program in C++ language is developed for moment-curvature relationship of the reinforced concrete beams with minimum percentage of steel. The moment-curvature relationship helps in understanding the strength characteristics, flexural behaviour, and ductility characteristics of RC beams under flexure. The influence of grade of concrete, grade of steel, percentage of tension steel, and geometric parameters like depth of the beam section on the moment-curvature relation of reinforced beams is studied. Based on the Moment-curvature diagrams, it is found that the first crack moment and the ultimate moment of concrete increases with increase in the grade of concrete due to the increase in the interfacial toughness. The energy absorption capacity and curvature ductility of the concrete is found to be decreasing with the increase in the compressive strength of concrete and percentage of steel due to the increase in brittleness of the concrete.

Keywords: Moment at First Crack, Moment at Ultimate, Minimum Percentage of Steel, Size of Beam, Grade of Concrete, Grade of Steel, Ductility Index.

INTRODUCTION

Minimum steel is necessary from shrinkage and creep considerations and guarantee accidental overloads due to vibration, settlements, etc. To avoid sudden and brittle failure of bending members, the Indian Standard Code prescribed limits on the minimum and maximum values of longitudinal reinforcement ratios. Longitudinal steel ratios for flexural members specified by the Indian code depend only on the steel strength, but it may be prudent to include the concrete strength also in the equation of such limits.

Curvature

Curvature is defined as the rotation of the member per unit length. In flexural members, moment-curvature relationship is assumed to fully represent the structural response of the beam cross section. Moment-curvature relationship for reinforced concrete sections can be generated using the equilibrium equations, the

compatibility equations, and the material models. From Figure 1, curvature is equal to the ratio of strain compression fibre to the depth of neutral axis.

$$\phi = \frac{1}{R} = \frac{\epsilon_c}{x} \quad (1)$$

$$\text{Hence, Ductility} \propto \frac{1}{p}$$

where, p = percentage of steel, ϕ = Strain gradient, R = Radius of curvature, ϵ_c = Maximum strain in concrete, ϵ_s = Maximum strain in steel, x = Neutral axis depth, d = Effective depth of the beam, αx = Small portion of curvature of beam, αd = Small angle subtending between the small portion of curvature of beam, M_u = Ultimate moment

Even though M_u increases with the increase of p , ductility decreases.

BENDING CHARACTERISTICS OF REINFORCED CONCRETE BEAMS

By

U. SAI SANDEEP *

T. MURALIDHARA RAO **

K. N. V. CHANDRASEKHAR ***

* GET, Shapoorji Pallonji Construction Limited, Hyderabad, India.

** Professor & Head, Department of Civil Engineering, CVR College of Engineering, Hyderabad, India.

*** Assistant Professor, Department of Civil Engineering, CVR College of Engineering, Hyderabad, India.

Date Received: 28/08/2017

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Keywords: Moment at First Crack, Moment at Ultimate, Minimum Percentage of Steel, Size of Beam, Grade of Concrete, Grade of Steel, Ductility Index.

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Even though M_u increases with the increase of p , ductility decreases.

A STUDY ON PARAMETERS OF FIREFLY ALGORITHM FOR TOPOLOGY OPTIMISATION OF CONTINUUM STRUCTURES – II

By

B. ARCHANA *

K.N.V. CHANDRASEKHAR **

T. MURALIDHARA RAO ***

* M. Tech Student, Department of Civil Engineering, CVR College of Engineering, Hyderabad, Telangana, India.

** Assistant Professor, Department of Civil Engineering, CVR College of Engineering, Hyderabad, Telangana, India.

*** Professor & Head, Department of Civil Engineering, CVR College of Engineering, Hyderabad, Telangana, India.

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ABSTRACT

The paper is in continuation of the research work on Topology optimization of continuum structures using Firefly Algorithm. Tuning of parameters for meta-heuristic algorithms have been one of the emerging areas of research. The goal is to find global minimum for an optimization problem in a d-dimensional space. Complex domains in structural engineering may require tuning of parameters to reduce the overall computational effort. In this paper, the main focus is on finding an optimum set of parameters required to perform topology optimization for a design domain. Few problems in the literature have been solved and the results compared.

Keywords: Firefly, Meta-heuristics, Parameters, Optimization, Tuning, Continuum Structures.

INTRODUCTION

The swarm intelligence based algorithms [15] such as ant colony, firefly algorithms have several advantages over the traditional algorithms. These meta-heuristics have been receiving considerable attention in the past three decades [5]. The simple fact that meta-heuristics are good at continuous optimization and are easier to implement as compared with the classical techniques makes them an ideal choice. The two main components of the meta-heuristic algorithms are intensification and diversification, popularly known as exploitation and exploration. They can guide to diverse solutions simultaneously and explore the good search space effectively. One of the problems dealt in this paper will definitely strengthen the observation. In in this paper [6] made an attempt to the cantilever plate problem, which has been one of the difficult problems for quite some time in the literature. The search space is too narrow and the applied load is quite high. In this paper, the authors have made an attempt to identify two diverse natural distributions, topologies for the cantilever plate problem, which were not only clear and distinct but also gave lower weight in a lesser number of iterations. This is a display an interesting and admiring ability of the Firefly

meta-heuristic algorithm. Meta-heuristics usually require fewer parameters and the convergence rate is quite high. These meta-heuristics algorithms start with an initial guess and converge toward a stable solution. The number of iterations required is relatively quite lower when compared with other algorithms. In this paper, the initial study has been performed using a few standard mathematical functions: Rastigrin function, Rosenbrock, and Camel's back functions [8] have been thoroughly studied. These complex algorithms guarantee an optimal solution for NP-hard problems [8]. These require an exponential computational effort to arrive at the optimal solution.

The firefly algorithm has been widely used in structural optimization over the last few years. The algorithm has been performing quite better when compared with the traditional Genetic algorithms and other meta-heuristic algorithms. The algorithm is a maximization algorithm which uses a few parameters, namely attractiveness parameter - beta, absorption coefficient, gamma, aggressiveness of random move - alpha, levy distribution parameter - lambda [12]. First, authors present a brief overview of the parameters, what they mean and why they have to be used. A firefly's attractiveness coefficient is



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INSTITUTE OF SCIENCE & TECHNOLOGY

Bandlaguda, Hyd-500



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K. M. PANDEY
INSTITUTE OF SCIENCE & TECHNOLOGY
Bandlaguda, Hyd-500 005.

K. M. Pan

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Isogeometric Topology Optimization of Continuum Structures using an Evolutionary Algorithm

Document Type: Research Paper

Authors

N. G. Sathish, R. N. V. Chandrasekhar

Department of Civil Engineering, CVR College of Engineering, Hyderabad, India

10.1002/eqe.26398.1330

Abstract

Topology optimization has been an interesting area of research in recent years. The main focus of this paper is to use an evolutionary swarm intelligence algorithm to perform Isogeometric Topology optimization of continuum structures. A two-dimensional plate is analyzed statically and the nodal displacements are calculated. The nodal displacements using Isogeometric analysis are found to be in good agreement with the nodal displacements acquired by standard finite element analysis. The sizing optimization of the beam is then performed. In order to determine the stress at each point in the beam a formulation is presented. The optimal cross-section dimensions by performing Isogeometric analysis are acquired and verified with the cross-section dimensions achieved by hiring bending stress and shear stress criteria, as well. The topology optimization of a two-dimensional simply supported plate continuum and a problem on three-dimensional continuum are optimized and presented. The results show that the minimum weight which is found by applying Isogeometric topology optimization gives better results



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A STEP BY STEP PROCEDURE TO PERFORM ISOGEOMETRIC ANALYSIS OF BEAM AND BAR PROBLEMS IN CIVIL ENGINEERING INCLUDING SIZING OPTIMISATION OF A BEAM

By

K. N. V. CHANDRASEKHAR *

N. S. S. SAHITHI **

* Assistant Professor, Department of Civil Engineering, CVR College of Engineering, Hyderabad, India.

** PG Scholar, Department of Civil Engineering, CVR College of Engineering, Hyderabad, India.

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ABSTRACT

The integration of CAD geometry and analysis is really a big advantage of using isogeometric analysis. The Galerkin weak formulation is used to solve the governing differential equations using the B-splines and NURBS functions. The main focus of this paper is to present a detailed step by step procedure to solve beam and bar problems in Civil Engineering. The beam is analyzed for static and dynamic loading, and the bar problem is analysed to find the natural frequency of vibration. The sizing optimization of the beam is also performed to determine the optimal cross section dimensions of the beam. The results from the isogeometric analysis are then compared with the theoretical results. The results from isogeometric analysis shows a good agreement with those obtained by using the analytical methods. The solution from the isogeometric analysis has better precision over other standard methods. The structures are designed with a basic set of criteria, which include minimum weight, frequency, compliance, and volume. In this paper, the problems related to the weight and frequency are presented, and this paper provides a few basic examples to discuss in a classroom.

Keywords: isogeometric Analysis, Beam, Bar, Vibration, Sizing Optimization, Frequency.

INTRODUCTION

Isogeometric analysis is a very useful technique to represent the geometry precisely. The advantage of using IGA over traditional finite element analysis is really the feature of integrating CAD geometry with the analysis (Hughes et al., 2005). The computational effort required can be considerably reduced by using fewer number of elements to precisely represent the geometry of the structure. The governing differential equations can be solved using Galerkin weak formulation and B-splines or NURBS. The field of isogeometric analysis involving and the several problems in Engineering are addressed.

The structures are designed with a basic set of criteria, which include minimum weight, frequency, compliance, volume, and so on. The fundamental frequency of the structure is of vital importance while designing important

structures. In this paper, a step by step analysis of beam and bar problems are presented. First, the analysis of the beam structure carrying a static loading is done. Secondly, a class of problems are the vibration analysis of beam and bar to determine the fundamental frequency of the structure. Third problem is to determine the optimal cross section dimensions of the beam.

1. Objectives of the Study

- The objective of this paper is to formulate and analyze the beam problem subjected to static loading and perform isogeometric analysis.
- To find the fundamental frequency of vibration for beam and bar problems in Engineering using isogeometric concept.
- To find the optimal dimensions of the simply supported



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Bandlaguda, Hyd-500 623

A STEP BY STEP ILLUSTRATIVE PROCEDURE TO PERFORM ISOGEOMETRIC ANALYSIS AND FIND THE NODAL DISPLACEMENTS FOR A TWO DIMENSIONAL PLATE STRUCTURE

By

K. N. V. CHANDRASEKHAR *

N. S. S. SAITHI **

T. MURALIDHARA RAO ***

* Assistant Professor, Department of Civil Engineering, CVR College of Engineering, Hyderabad, India

** M.Tech Student, Department of Civil Engineering, CVR College of Engineering, Hyderabad, India

*** Professor and Head, Department of CEM Engineering, CVR College of Engineering, Hyderabad, India

Date Received: 02/09/2017

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ABSTRACT

In this paper, the authors present an illustrated step by step approach to perform Isogeometric analysis (IGA). The existing literature does not have any solved problems in a stepwise procedure, which can be useful to explain in a classroom. This paper should serve as a benchmark example to refer the stepwise procedure to learn IGA. The focus is on the illustrative stepwise analysis and isogeometric analysis using NURBS basis functions (Non-Uniform Rational), which can represent the Geometry of the structure more precisely over the finite element method. In this paper, a two dimensional plane plate structure carrying in-plane loading is analysed using Isogeometric analysis. This problem is also solved using Marc Mentat®; a finite element package and the results are compared and presented. The results show that the nodal displacements calculated using Isogeometric analysis are in close agreement with the nodal displacements found using a standard finite element package.

Keywords: Isogeometric, Plate, Continuum, Structures, In Plane Loading, Marc Mentat, Illustrative.

INTRODUCTION

The isogeometric analysis unifies the fields of CAD (Computer Aided Design) and FEA (Finite Element Analysis). The computational geometry and the computational mechanics have become a sophisticated and complex discipline, but the essence of the finite element method is quite simple and straightforward. The isogeometric analysis capabilities to the existing finite element computer programs can include on a wide variety of applications. The unique feature of isogeometric analysis which is not available in the traditional finite element analysis is the exact representation of the geometry in the engineering design. The focuses of CAD and FEA is much closer and isogeometric analysis will unify these fields. Hughes et al. (2005), in the paper used Rational B-Spline (NURBS) basis functions and discussed their unique properties on a wide

variety of applications and how the research on these powerful functions might benefit across several fields. Particular attention is given to the Galerkin finite element method within the framework of isogeometric analysis.

In this paper, the focus is to present a step wise illustrative approach to perform Isogeometric analysis of a plate structure. The NURBS basis functions were developed by Espath et al. (2011). The basis functions for geometry and displacement are considered to be the same. The Strain Displacement matrix and the Stiffness matrix were developed for each element. The element stiffness matrix then assembled to form a global stiffness matrix. The global force vector is then formed. The boundary conditions were applied and the nodal displacements were determined. The structure is also analysed using the order four node quadrilateral elements using Marc Mentat®, which is a



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By

K. N. V. CHANDRASEKHAR *

N. S. S. SAHITHI **

T. MURALIDHARA RAO ***

* Assistant Professor, Department of Civil Engineering, CVR College of Engineering, Hyderabad, India.

** M.Tech Student, Department of Civil Engineering, CVR College of Engineering, Hyderabad, India.

*** Professor and Head, Department of Civil Engineering, CVR College of Engineering, Hyderabad, India.

Date Received: 02/05/2017

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By

K. N. V. CHANDRASEKHAR *

N. S. S. SAHITHI **

T. MURALIDHARA RAO ***

* Assistant Professor, Department of Civil Engineering, CVR College of Engineering, Hyderabad, India

** M.Tech Student, Department of Civil Engineering, CVR College of Engineering, Hyderabad, India

*** Professor and HOD, Department of Civil Engineering, CVR College of Engineering, Hyderabad, India

Date Received: 02/08/2017

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ABSTRACT

In this paper, the authors present an illustrative step by step approach to perform isogeometric analysis (IGA). The existing literature does not have any solved problems in a stepwise procedure, which can be useful to explain in a nutshell. The paper should serve as a benchmark example to refer the stepwise procedure to learn IGA. The focus is on the illustrative stepwise analysis and isogeometric analysis using NURBS basis functions (Non-Uniform Rational), which can represent the Geometry of the structure more precisely over the finite element method. In this paper, a two dimensional plane plate structure carrying in-plane loading is analysed using isogeometric analysis. The problem is also solved using Marc Mentat®, a finite element package and the results are compared and presented. The results show that the nodal displacements calculated using isogeometric analysis are in close agreement with the nodal displacements found using a standard finite element package.

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K. S. R.
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INSTITUTE OF ENGINEERING & TECHNOLOGY
Bandlaguda, Hyderabad.

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MULTI OBJECTIVE OPTIMIZATION OF REINFORCED CEMENT CONCRETE RETAINING WALL

MANJIDI SAI KUMAR SAGAR, M.Tech
(Geotech)
Department of Civil Engineering
Abhinav Hitech College of Engineering
Email Id: sagarsai64@gmail.com

SPINIVA SANKRITA
Associate Professor
Department of Civil Engineering
Abhinav Hitech College of Engineering
Email Id: spiniva_sankrita4@gmail.com

ABSTRACT

The optimum design of reinforced cement concrete cantilever (RCC) can be solved in the for the minimum cost satisfying required external and internal stability criteria. For high level decision making, an ideal optimization should give the optimized cost vis-a-vis corresponding factor of safety (FOS) against external stability like bearing, sliding and overturning, which is known as multi-objective optimization problem. In the present work multi-objective optimization of the RCC retaining wall is presented with conflicting objectives of minimum cost and maximum factor of safety against external stability. The Pareto-optimal front is presented using an evolutionary multi-objective optimization algorithm, non-dominated sorting genetic algorithm (NSGA-II). The results are compared with that obtained using empirical relations.

The design of RCC retaining wall is a trial and error process, in which a trial design with its geometry is proposed (may be as per existing guideline) and checked against different stability criteria [31]. Very often it is an over designed wall with hardly any consideration for optimum dimension. However, the economy is an essential part of a good engineering design and needs to be considered explicitly in design to obtain an optimum section.

The optimum section of a retaining wall can be considered in the framework of an optimization problem and can be solved using the optimization techniques. In all

K. Sankritha

PROFESSOR
ABHINAV HITECH COLLEGE OF ENGINEERING
INSTITUTE OF ENGINEERING & TECHNOLOGY
Bandlaguda, Hyderabad

FLOW ANALYSIS AND OPTIMIZATION OF SUPERSONIC ROCKET ENGINE NOZZLE BY VARYING DIVERGENT ANGLES USING CFD

B Venkateshwar Reddy¹, Research Scholar, SJTU, Rajasthan
Email Id: bvsreddy01969@gmail.com


Dr.S.Chakradhar Goud², Professor, SJTU, Rajasthan

Abstract:

A nozzle is a device used to give direction to the gases coming out of the combustion chamber. A nozzle is a tube that converts the thermo-chemical energy produced in the combustion chamber into kinetic energy. The nozzle converts the combustion chamber's low-velocity, high-pressure, high-temperature gas into a high-velocity, low-pressure, low-temperature gas. A divergent nozzle is used if the nozzle pressure ratio is high. High-performance engines in supersonic aircraft generally incorporate some form of a convergent-divergent nozzle. Our analysis is carried using software like Ansys Workbench to design the nozzle and Fluent 15.0 to analyze the flows in the nozzle. The occurrences of shocks for conical nozzles, as well as other parameters at various diverging angles, were noted. By retaining the inlet, outlet, and throat diameters and lengths of convergent and divergent parts, the characteristics under observation are compared to those of the conical nozzle for divergent angles. Throughout the examples, the convergent section and throat diameter are kept constant. The occurrence of shocks was displayed. The findings indicated close resemblance information of Mach disc and its reflection patterns as reported in several experimental studies on expansion in divergent conical nozzles with divergent angles of 4°, 7°, and 10°.

1.0 Introduction:

Rocket engines are reaction engines that obtain thrust in accordance with Newton's third law of motion. The majority of rocket engines are in the group of internal combustion engines. Rocket engines have the lightest, maximum exhaust velocities and are the least energy-efficient of all types of jet engines. A nozzle is a device that reduces pressure while increasing the velocity of a fluid. The nozzle is a part of the rocket used to expand combustion gases through it and produce thrust. The nozzle is a device through which pressure energy is converted to kinetic energy. Chemical energy is converted into thermal and pressure energy during the combustion of fuel. The combustion gases are at high pressure and temperature at this point, and these gases under such high pressure expand through the nozzle, converting pressure energy into kinetic energy, which, according to Newton's third law of motion, moves the vehicle in the opposite direction of the exhaust gases. The nozzle has two basic functions: first, it must control the engine back pressure to ensure proper and optimum engine performance, which is accomplished through jet area fluctuations. Second, they must efficiently transform the exhaust gas's potential energy to kinetic energy by raising the exit velocity, which is accomplished by expanding the exhaust gases to atmospheric pressure. This is a time-consuming and costly procedure. The nozzle converts the chemical, thermal energy generated in the combustion chamber into kinetic energy. The broad range of exhaust velocity is 2 to 4.5 kilometers per second. The convergent and divergent (also known as divergent nozzle-figure) type of nozzle is the De-Laval nozzle. The


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Bhadrachalam, Hyd-500 005.

ENHANCEMENT AND GRAY RELATIONAL ANALYSIS OF EN 31 STEEL USING PARAMETERS OF WIRE CUT ELECTRIC DISCHARGE MACHINE

G.K.SHANMUKH DEV¹

M.E(Ph.D), Associate Professor
Dept. of Mechanical Engineering
Mahaveer Institute of Science and
Technology, Hyderabad
gksdev_@gmail.com

SANTHOSH KUMAR DEVARAJU²

M.TECH(Ph.D), Assistant Professor
Dept. of Mechanical Engineering
Mahaveer Institute of Science and
Technology, Hyderabad
devarajsanthu_@gmail.com

Abstract

Due to the fact that electric wiring is lively, efficient and precise machining system and complicated, it is necessary to investigate this for competent machining.

This article outlines Gray social theory as well as Taguchi technique to update Wire EDM for EN31's cutting settings. For each experiment expulsion rate has been examined, surface ruthlessness as reaktion parameters. During the processing of EN31, experiments were managed using Taguchi's Orthogonal Show L27 A 0.25 mm diameter metal wire end was used in experiments as contract. The results progress assessment (ANOVA) Strategy are questioned. The rate obligation parameters is shown independently by this Parametric Assessment (ANOVA). Reduce social evaluation involves choosing appropriate machining settings for EDM cable cutting operation. A reduced social assessment is used to update system parameters from reduced social assessment. We get optimum parameters by separating Grey social assessment. Push process parameters for future evaluations by using working conditions improvement methods.

Key words: EDM, EN31, ANOVA, Taguchi's L27 Orthogonal.

1. INTRODUCTION:

a. Material Selection:

In the test we choose high carbon chrome steel EN 31 steel. This steel has high hardness level with EN31 thanks to round bar steel solidification. EN31 is high-quality carbon steel that provides high hardness with compressive quality and shredded spot resistance.

Element	Content (%)
C	1.50
Mn	0.52
Si	1.3
Cr	0.22
Ni	0.33
Mo	0.06
P	0.05

1.1.1 CHEMICAL COMPOSITION OF EN-31 STEEL

ELEMENT	METRIC
Tensile Strength	750 N/mm ²
Yield stress	450 N/mm ²
Reduction of Area	0.45
Elongation	0.3



1.1.2 Mechanical Properties of

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STUDY ON OPTIMIZATION TECHNIQUES OF WORN TOOL MACHINING PROCESS IN TRADITIONAL AND CLIMB MILLING

¹DR.G SRIKANTH REDDY & ²M.RAMESH BABU

^{1,2}Associate Professors,

Department of Mechanical Engineering,
Mahaveer Institute of Science & Technology
Hyderabad, Telangana-500005
Email Id: gsreddy320@gmail.com

Abstract — In milling, there are two distinct ways to cut materials: traditional (up) milling and climb (down) milling. The relationship of the cutter's rotation to the feed path differs between these two techniques. The objective of this study has to find out the optimal differences in tool materials by considering both cutting types and number of flutes. The practical study has been considered on EN24 material with both HSS and carbide tool with two flute and four flute milling cutters by using CNC BMV-40 machining center. The work has been optimized by using Taguchi techniques of orthogonal arrays. The deformation result has been tabulated to check the variation in deformation of the component at different tools.

Keywords: Deformation, Optimization Techniques, Machining types and Worn Tool.

I. INTRODUCTION

Surface roughness is one of the most important characteristics in metal cutting, and it is used in machining forms. The normal of the least and maximum within the estimation space characterizes the roughness of the surface. When it comes to metal cutting, there are a variety of devices to choose from. Some parameters are available that have a direct impact on surface roughness. There are two types of gatherings for these cutting parameters: regulated and unregulated. We will most likely discover the feasibility of managed cutting parameters on surface roughness during this investigation.

Additionally, investigate cutting parameters have a major impact on surface roughness. Cutting

techniques have received a surprising amount of attention since the turn of the twentieth century. By continuously inspecting the cutting process, factors that influence the result of the process were resolved, and after that examinations centred toward that path. When all is said in done there are three different parts of the cutting procedure: the machine, the cutting device, and the work-piece material.

Among these three sections, the cutting tool has its particular significance as far as cost and effectiveness. Frederick 1800's, performed studies about on cutting devices because of his investigations on cutting devices; Taylor figured the connection between cutting rate and tool life for various tools. The changes he oversaw in tool effectiveness and yield by utilizing his details were striking. Because of cost contemplations, more accentuation was set on tool life.

A tool that never again plays out the coveted function is said to have fizzled and along these lines achieved the finish of its valuable life. By then of time, the tool is not any more capable of doing out cutting. The tool must be either honed or supplanted.

Climb processing can be utilized in most processing applications. It is particularly significant while machining Titanium, Cobalt and Nickel-Based Alloys. Notwithstanding, note that the machine



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MOULDING DEFECTS IN INJECTION MOULDING PROCESS

P Durga Ravi Prasad

Asst Professor (MIST), Mechanical Department

EMAIL ID: pdurgaraviprasad@gmail.com

Abstract:

Injection moulding (also known as injection moulding in United States) is manufacturing procedure that involves injecting molten content into mould. Injection moulding can be done with variety of materials, including metals (for which die-casting is used), lenses, elastomers, confections, and, most generally, thermoplastic & thermosetting polymers. material for part is fed into heated barrel, mixed (using helical screw), & then injected into mould cavity, where it cools & hardens to cavity's shape. [1]:240 Molds are precision-machined from metal, commonly steel or aluminium, by mold-maker (or toolmaker) to mould characteristics of desired component after product is developed, usually by industrial designer or engineer. Injection moulding is widely utilised to manufacture broad range of parts, ranging from tiny modules to entire car body panels. Advances in 3D printing technology, which employ photopolymers that do not melt during injection moulding of some lower-temperature thermoplastics, can be used to create some basic injection moulds.

Injection moulding is done with three-part system that includes injection unit, mould, & clamp. Parts must be precisely designed to make injection moulding process easier; material used for part, intended form & characteristics of component, material of mould, & qualities of moulding machine must all be considered. This diversity of design considerations & possibilities contributes to injection molding's flexibility.

Contents

Applications

Injection moulding is used to create wire spools, packaging, bottle caps, automotive parts & components, toys, pocket combs, some musical instruments (and parts of them), one-piece chairs & small tables, storage containers, mechanical parts (including gears), & most other plastic products on market today. Injection moulding is most common industrial method of producing plastic parts; it is ideal for large-scale manufacturing of same item. [2]

Features of process



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Bandlaguda, Hyd-500 005.

DESIGN AND ANALYSIS OF AIR PURIFIER EQUIPMENT

K. DEVISINGHI

Asst.Prof. Dept. of Mechanical Engineering, Mahaveer Institute of Science & Technology,
Hyderabad.
dey325singh@gmail.com

Abstract

Now a day's air pollution is the leading concern among people. To be safe from polluted air, using the available general mask is insufficient to avoid severe health hazards. So that we are going to perform design and analysis of. For example, in our entire Nation Delhi is the most polluted city, there leading life is very difficult.

No one ever thought that water is purified and used, but in the present generation, distilled water is required.

Air purifiers can be used for multipurpose, for room purifying, for breathing the fresh air. But in this breathing stage, we have to carry a cylinder on the back to have some fresh air inhaling.

This can be placed at bus stops, railway stations for supplying air into mini cylinders by a large volumetric cylinder. In this method, we can minimize the problem of breathing contaminated air.

INTRODUCTION

Air is a mixture of about 78% nitrogen, 21% oxygen, 0.9% argon, 0.04% carbon dioxide, and tiny amounts of other gases. There is an average of about 1% water vapor.

An air purifier is a device used to remove contaminants like dust particles, cloth fibers, etc., present in the air. These devices are claimed to be beneficial to people having allergies and asthma. The commercially graded air purifiers are manufactured as either small stand-alone units or larger units that can be affixed to an air handler the air before processing. A standard air purifier consists of various types of filters and filter levels to remove the contaminants from the surrounding air. A particulate air filter is a device composed of fibrous or porous materials that remove solid particulates such as dust, pollen, mold, and bacteria from the air.

HEPA is an acronym for High-Efficiency Particulate Air and is a



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Londregoda, Hyd-500 005.

DESIGN AND FABRICATION OF AUTOMATIC DRAIN SCRAP COLLECTOR

G.Bhavani^a, Kethavath.Gopal^b

Asst. Professor, Dept. of Mechanical Engineering, MIST, Vysapuri, Hyd

ABSTRACT:

This paper describes the design and fabrication of automatic drain scrap collector. Drainages for the disposal of sewage and unfortunately sometimes there may be a loss of human life while they cleaning the blockage in the drainage. Impurities in water can cause serious health issues that can damage the life of human beings. To overcome this problem, we designed an "automatic drain scrap collector." The chief function of our system is to collect, transport, and dispose of the solid waste in the collector bin with the help of teeth provided to the system. Solid wastes in drainage water include empty bottles, polythene bags, papers, etc. To avoid the blockages, these impurities are needed to be taken out from time to time for the continuous flow of drainage water. Drain can be cleaned continuously with the help of this model using the chain drive system to remove the solid waste from the drainage water. This model automatically cleans the water in the drainage system each time any impurity appears, with the help of teeth which are driven by sprocket grasp the solid waste and threw it into the collector bin which is at the backside of the system. This automatic drain cleaner can be used in domestic, industry, irrigation, etc. This system has limited human intervention in the process of cleaning and, in turn, reduces labor costs and also prevents the spreading of diseases to mankind.

Keywords: Chain, Motor, Frame, Catia, Mesh, etc.

1. Introduction

Cleaning of drains has always been a problem. Labors cleaning the throwing of bottles/plastics and other such objects into the gutters leads to narrowing and eventually blockage in drain flow. So here, we provide a fully automated drain cleaning mechanism to tackle these modern-day drain jamming issues. Our system uses an automated drain cleaning system that fluids flow through it but catches large solid waste like bottles, plastic and accumulates it. The mechanism This Project automatically cleans the water in the drainage

form an inefficient and easy way of cleaning the drainage system and preventing blockage. It also reduces labor. And improves the quality of water should be cleaned. If the garbage is allowed to flow, it will end up flowing down to recreational beaches used for tourism purposes, making a scene not pleasurable to the eyes.

Else these garbage flow to residential sites where they are burnt in the way of getting rid of them, thereby causing climate change. Here we provide a fully automated drain cleaning mechanism to tackle these modern-day drain jamming issues.

MODELING AND ASSEMBLY OF TRANSMISSION SYSTEM OF ALL-TERRAIN VEHICLES

Nageswar B, Asst.Prof.
Department of Mechanical Engineering,
Mahaveer Institute of Science and
Technology, Hyderabad.
Email Id: nag.nit9@gmail.com

E. Krishna Deepak, Asst. Prof.
Department of Mechanical Engineering,
Mahaveer Institute of Science and
Technology, Hyderabad.
Email Id: krishnadeepak.che@gmail.com

Abstract:

An all-terrain vehicle (ATV) is a vehicle that is specially made and designed for unusual conditions and can sustain in any road conditions such as muddy, slippery, rocky, etc., and moving at a considerable speed without getting affected by any obstacles on the path. The main focus of an ATV is to provide comfortable and safe in uneven terrains. They function in environments like river-bank, mountains, snow, forests, etc.

ATVs usually have a sturdy and sporty build, wider tires than SUVs, more ground clearance using bigger wheels, a powerful engine that can produce more fabulous torque rear, all-wheel-drive, etc. The tires of such vehicles are designed to provide a good amount of tractive effort by increasing the grooves.

In this project, we intend to design and fabricate an ATV from the derivation of members in our group. This ATV is powered with a conventional IC engine, a spark ignition 3-cylinder engine with a horsepower of 34BHP producing a torque of 59Nm.



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The concept is mainly focused on the design and transmission of an ATV. And also, it deals with how the power is transmitted from the engine to the differential through the gearbox and propeller shaft. From all the different types of transmissions, the type of transmission used here is the very usual manual type of transmission. The drive train involved in this project is the rear-wheel drive train. For the rear-wheel-drive train, we need a propeller shaft or driveshaft, which is then connected to the differential, which transfers equal power to the wheels. The differential is a power-moving mechanical component that transfers an equal amount of energy to the wheels. It is used to transmit power from a drive shaft to drive wheels.

1. INTRODUCTION:

All-Terrain vehicles (ATVs), the name itself implies that these vehicles are built to sustain in any road conditions and move in-effected with a stipulated and more remarkable power of the engine without causing much effect to the car and the passengers in the vehicle. Generally, these vehicles are designed with a very stern

Preparation and Characterization of Nano Fluids with its Applications

E. Krishna Deepak, Asst. Prof.

Nageswar B, Asst.Prof.

Department of Mechanical Engineering,
Mahaveer Institute of Science and
Department of Mechanical Engineering
Technology, Hyderabad.
Email Id: krishnadeepak.che@gmail.com

Email Id: nag.nit9@gmail.com

Abstract:

Conventional heat transfer nano fluids are inadequate for high heat flux applications due to their weak thermal properties such as conductivity. Nano fluids are colloidal suspension of ultra-fine metallic particles in a given fluids. In spite of all other properties, it is well known for its high thermal conductivity and better response as heat transfer medium in automotive industries. For this study, Al_2O_3 nano particles and TiO_2 nano particles were synthesized by solution combustion method and sol gel method. Nano fluids are prepared by dispersion of Al_2O_3 & TiO_2 nano particles into SDBS and distilled water at four different concentrations like 0.1 wt%, 0.5 wt%, 1.0 wt% and 1.5 wt % of Al_2O_3 & TiO_2 nano particles by two step method. From the experimental studies it clear that at 0.1 wt% of Al_2O_3 nano fluid coolant shows moderate performance when compared with pure water. As the wt% increases at 1.5 wt% of Al_2O_3 nano fluid coolant shows better performance of radiator when compared with pure water and TiO_2 nano fluid coolant.

Introduction:

Now a day's technologies plays a wide role in the process of the development and utilization of energy, but focusing on the performance of radiator on heat transfer equipment will not meet the demand of the development of science and technology. It has become a new trend for searching a new type working substance with high heat transfer performance to solve this problem [1]. Nano fluids refers to a new type of

heat transfer medium which disperse the nano particles of which the average particle size is less than 100 nm into water, alcohol, oil or other traditional heat transfer medium. This

kind of nano fluids has the characteristics of uniformity, stability and of high thermal conductivity.

Nano fluid cooling is one of the most important technical challenges facing numerous industries such as automobiles, electronics, and manufacturing. New technological developments are increasing thermal loads and requiring faster nano fluid cooling. The conventional methods in increasing the cooling rate (fins and micro channels) are already stretched to their limits [2] The new coolants with their higher thermal performance will reduce the overall size of heat exchanger/radiator and may decrease the vehicle fuel consumption. From the studies it shows that the nano fluids coolant are heat transfer fluids containing suspended nano particles, which have been developed to meet more demanding cooling effects. Nano fluids are a new trend of solid-liquid composites consisting of nano meter sized (<100 nm) solid particles suspended in heat transfer fluids such as water and ethylene and propylene glycol. Several researchers showed that the convective heat transfer coefficient increases substantially

DESIGN, ANALYSIS, AND FABRICATION OF SOLAR AIR PURIFICATION TOWER

P.PRAVEEN KUMAR REDDY

M.Tech, Assistant Professor, Department of Mechanical Engineering, Mahaveer Institute of Science & Technology, Hyderabad.
patelpraveen338@gmail.com

ABSTRACT:

When dangerous or excessive quantities of things, such as gases, particles, and biological molecules, are introduced into the Earth's atmosphere, this is known as air pollution. Air pollution potential to cause infections, allergies, and even death in humans; it also has the potential to affect other living species such as animals and food crops and degrade the natural or constructed environment. Both human activity and biological processes can cause air pollution.

Indoor air pollution and poor urban air quality are two of the world's biggest hazardous pollution problems, according to the Blacksmith Institute's World's Worst Polluted Places study from 2008. Outdoor air pollution kills 2.1 to 4.21 million people prematurely each year. According to a World Health Organization research published in 2014, air pollution killed over 7 million people worldwide in 2012, a figure that the International Energy Agency roughly agrees with. Despite the government's best efforts, air pollution is rapidly expanding due to urbanization, excessive automobile use, manufacturing, and construction projects, among other causes.

HEPA (High-Efficiency Particulate Air) Air Purification is a perfect

Solution for reducing air pollution is essential in cities where pollution control is one of the biggest challenges. However, HEPA Air Purification requires a lot of energy to drive a draught system. It is better to use solar energy rather than conventional thermal energy, which again creates pollution.

we are planning to fabricate a Solar Air Purification Tower for controlling air pollution, Preparation of drawings, Study of various types of air pollutants, HEPA filters, solar energy and solar panels, casing, structural members, wiring, fans, etc.,

1. INTRODUCTION

Decades ago, air pollution was visible and dangerous. According to WHO statistics, air pollution is currently considered a major environmental issue in most nations due to urbanization (WHO). In recent years, outdoor air quality has emerged as a social problem because it has a relatively high fine particulate matter concentration in city hotspots. In particular, the increase in fine particulate matter has led to a rise in premature deaths, reaching 1.2 million, increasing the threat to public health caused by fine particulate matter. In general, the WHO confirms that 92% of the world's population lives in places where air quality levels exceed WHO limits. Hence, it is urgent to prepare a solution to resolve public health and anxiety. In India



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Fabrication and Experimental Analysis Of Electro Chemical Machine for Aluminum 6068

Faiz Ali

Asst. Professor, Dept. of MECHANICAL, Mahaveer Institute of Science & Technology, Vysapuri, Hyd

Abstract:

Electrochemical Machine is an unconventional machine method for machining difficult-to-machine materials such as superalloys, Ti-alloys, stainless steel, and so on. The primary operating principle is based on the Faraday law of electrolysis, which states that material is removed atom by atom by electrolysis.

Electrochemical Machine (ECM) is the generic term for a variety of electrochemical methods. ECM is used to machine workpieces from metal and metal alloys irrespective of their hardness, strength or thermal properties, through the anodic construction, medical equipment, micro-systems and power supply industries. The Electrochemical Machine is highly suitable for Machines of materials used in extreme conditions. In this project, a portable electrochemical machine has been fabricated and utilized for experimental investigation.

Keywords: ECM, Aluminum 6068, MRR, Arduinouno, Feed Rate etc.....



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1. INTRODUCTION**Machining Process**

The conventional machining process usually involves changing the shape of a workpiece using an implement made of a harder material. Using conventional methods to machine hard metals and alloys means increased demand of time and energy and therefore increases in costs. In some cases, a conventional Machine may not be feasible.

Conventional Machine also costs tool wear and loss of quality in the product because of induced residual stresses during the manufacturing process. With the ever-increasing demand for hard alloys and metals manufactured goods, more interest has gravitated to non-conventional machine methods.

Examples of Machining Processes

Examples of conventional machine processes are turning, boring, milling, shaping, broaching, slotting, grinding, etc. Similarly, Electrochemical machine (ECM), Abrasive Jet Machine (AJM), Ultrasonic Machine (USM), Water Jet and Abrasive Water Jet Machine (WJM and AWJM), Electro-discharge Machine (EDM) are some of the non-conventional machine processes.

FABRICATION OF REGENERATIVE BRAKING SYSTEM

Dr. Shravan Kumar

Assistant Professor, Department of Mechanical Engineering
Mahaveer Institute of Science and Technology, Hyderabad

Abstract: We're getting closer to the age of electric automobiles. The battery charging time and shortage of charging outlets are the two biggest barriers to widespread adoption of electric cars. As a result, we suggest a regenerative braking mechanism in this paper. When a vehicle's brakes are applied, this technology allows it to create energy. The more force is applied to the brakes, the more power is created. The kinetic energy of the wheel is wasted in the form of heat during braking owing to friction between the brake pads. The Regenerative Braking System can recover this energy. Excess energy is temporarily held in capacitor banks in this approach before being transformed to heat energy and squandered. By recharging the battery with the stored energy, this technique extends the battery's life. As a result, the electric vehicle's mileage improves since it can go further on a single charge. As a result, this method allows the automobile battery to be charged each time the brakes are used, resulting in a regenerative braking system. It takes us one step closer to a zero-pollution transportation system.

Keywords: Fabrication, Regenerative Braking System.

1. INTRODUCTION

Due to a scarcity of sustainable alternative energy sources in recent years, boosting economy and lowering exhaust gas emissions has been a major emphasis of current automobile research. Commercial vehicles, such as garbage trucks and delivery trucks, lose a significant amount of kinetic energy while braking often and driving at low speeds on approved city routes, resulting in higher fuel consumption and greenhouse gas (GHG) emissions than other on-road vehicles. There have been several attempts to enhance the kind of vehicle. One of the most efficient ways to solve vehicle emissions, notably for NO_x and soot, is to use a technical combination of Exhaust Gas Recirculation (EGR) and Diesel Particulate Filter (DPF) following treatment. This strategy, however, is unable to minimise GHG emissions since the low temperature combustion of this technology increases the fuel penalty. Sacrificing engine efficiency in return for lower pollution levels would not address the energy dilemma fundamentally. In order to meet overall GHG reduction objectives, a significant reduction in commercial vehicles is required. One of the most important elements of electric vehicles is regenerative energy technology. It enables the vehicle to catch and reuse a significant percentage of kinetic energy wasted during braking or deceleration. That is to say, energy recovery technology has the potential to drastically reduce energy use.

The energy consumption of electric vehicles (especially on metropolitan routes) Regenerative Braking System and Boost Recuperation System are two regenerative energy systems that have been used in commercial cars. The former is often used in a series hybrid design, whereas the latter is used in a parallel architecture. The driving axle is fitted with a regenerative braking system to recover braking energy. To recover kinetic energy during the deceleration phase, the boost recuperation system is connected in tandem with the mechanical propulsion system. Both technologies enable commercial cars to reduce fuel usage and pollutants significantly. The regeneration energy rate of hybrid commercial cars on the other hand has received little attention from academics. The more energy recovered by regenerative braking, the less gasoline burned. Typical hybrid commercial vehicles are constructed with rear-wheel drive, and a regenerative braking system is installed in the rear-wheeled axle to recover braking energy. Braking energy loss in both the front and rear axles may vary due to changes in the vehicle's centre of gravity under various load circumstances.

According to current brake studies, the front axle accounts for 50-80 percent of braking energy loss in commercial vehicles, with braking energy loss varying somewhat depending on load condition. As a result, the vast majority of regenerative energy potential is untapped.

2. LITERATURE SURVEY

A test bench for assessing the regenerative braking capabilities of a Brushless DC Motor is designed and manufactured in this study [1]. Engineers will be more conscious of energy efficiency and conservation as a result of this effort. It is concluded that regenerative braking systems are more efficient at higher speeds and that they should not be utilised as a vehicle's only brakes. The specific use of this technology outlined in the project in future vehicles can assist us to a certain degree in achieving a sustainable and bright future of energy efficient planet, since a portion of lost power can be recovered utilizing the regenerative braking system.

The advantages of regenerative braking over conventional braking have been discussed in this study [2]. Regenerative braking systems can work at the

FABRICATION OF MULTI-CROP SEED AND FERTILIZER PLOUGHING MACHINE

Dr. B. Nageswara Rao
Ph. D., Prof. Dept. of Mech.,
bnrao44@gmail.com
MahaveerInstitute of Science and
Technology, Hyderabad

A. Narayana Murthy
B.E, Asst.Prof. Dept. of Mech.,
addala.7murthy@gmail.com
MahaveerInstitute of Science and
Technology, Hyderabad

ABSTRACT:

A multi-purpose seed sowing machine consists of two mechanisms, one for sowing the seed and another for fertilizer weeding. The essential objective of the sowing operation is to put the seed and fertilizer in the desired depth, provide required spacing between the seeds and cover the seeds with soil. We can achieve optimum yield by proper compaction over the seed and recommended row spacing. To meet the demands farmer, have to use new techniques in cropping to increase the yield. Requirements of small-scale sowing machines should be simple in Design, affordable for small-scale peasant farmers, easy maintenance for effective handling by unskilled farmers. In this project, an attempt has been made to reduce the cost of the machine and develop

a multifunctional sowing machine that can perform simultaneous operations.

INTRODUCTION:

Indian economy is based on agriculture, the development in agriculture leads in raising the economic status of the country. In India, farmers face problems due to the unavailability of labours, traditional way of farming using non-efficient farming equipment, which takes a lot of time and increases labor costs. This project is all about enhancement in seed sowing and fertilizer weeding like farming operations by using multifunctional seed sowing machines. The main objective of sowing operation is to place seed at proper position respective of other placed seeds in every row at a particular depth and provide a cover of soil on it. As per the change in shape and size of different seeds, the parameters like the

Green Synthesis and Characterization of Metal Oxides with Its Applications

SANTHOSH KUMAR DEVARAJU¹

M.Tech(Ph.D), Assistant Professor
Dept. of Mechanical Engineering
Mahaveer Institute of Science and
and Technology, Hyderabad
devarajsanthu@gmail.com

G.K.SHANMUKH DEV²

M.E(Ph.D), Associate Professor
Dept. of Mechanical Engineering
Mahaveer Institute of Science
Technology, Hyderabad
gksdev@gmail.com

Abstract

When compared to chemical methods, the green synthesis of metal oxides has a wide range of applications. Metal oxide nanoparticles have received a lot of attention in a wide range of scientific fields, including physics, chemistry, medicine, optics, and mechanical engineering. Inorganic white metal oxide, titanium dioxide is non-flammable and thermally stable. Titanium dioxide is a solid inorganic material. Due to its antibacterial, antiseptic, antifungal, and anti-inflammatory properties, drum stick plant leaf extract was used in this study to synthesise TiO₂ nanoparticles in an environmentally friendly green synthesis process. X-ray Diffraction (XRD) and Scanning Electron Microscopy (SEM) were used to analyse the surface morphology or surface characteristics of the produced metal oxides (SEM). These nanoparticles have a wide range of applications in mild steel, such as preventing the formation of rust on the surface of mild steel.


Experiments on the drumsticks plant, XRD, SEM, and EDX

Introduction:

As a prelude, here are a few things to

Material with at least one dimension ranging from 1 to 100 nanometers is known as nanotechnology. The organic and inorganic components of nanomaterials are separated. In the physical, chemical, medicinal, optical, mechanical, and other engineering sciences, fresh techniques are being developed to examine and manipulate single atoms and molecules. [1] In addition to their antibacterial, magnetic, electrical, and other intriguing capabilities, metal and metal oxide nano particles have an extremely high surface-to-volume ratio.

Nanoparticles of metal oxide have traditionally been made using a variety of physical and chemical techniques. Non-sputtering, solution combustion process, sol-gel technology, and electrochemical technique are some of the more often employed synthesised technologies. However, these few technologies are expensive, poisonous, high-pressure, high-energy, and potentially hazardous [2].


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Bandlaguda, Hyd-500 005.



Comparative Experimental Analysis on Dual Fuel with Biodiesel -Acetylene in Reactivity Controlled Compression Ignition Engine

Sonachalam Muthuswamy & Manieniyar Veerasigamani

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Research Article



Optimization of critical angle, distance and flow rate of secondary fuel injection in DI diesel engine using computational fluid dynamics

M. Sonachalam¹ - V. Manienyan¹

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Abstract

This study presents the optimization of the intake manifold and the optimized flow rate of the acetylene gas which acts as a low reactivity fuel to achieve the superior performance and emission characteristics used in the Reactivity controlled compression ignition (RCCI) engine. Intake manifold is one of the engine components which are an important factor in determining the quality of combustion. A very recent evolution of the RCCI engine using the low temperature combustion technique requires a low reactivity fuel which is injected through the secondary fuel injector. The secondary fuel injector must be designed and optimized to allow the acetylene gas to maximize the engine performance and the amount of acetylene gas in liters per minute required for better combustion. If the secondary fuel injector is mounted apart from the critical point, then the performance of the RCCI engine may be poor and also if the acetylene gas is not supplied properly, there is a risk of poor combustion and also if the acetylene gas is supplied excessively, there is a risk of knocking along with the backfire due to the excess fuel charge accumulation during the combustion process. Physical testing of the secondary fuel injector in the intake manifold with different angles, distance and flow rate of supply of acetylene gas is time and cost consuming process. To mitigate this issue optimization is done through computational fluid dynamics principles comes in handy to minimize time and money. In our study, ANSYS-FLUENT software is used for simulation purposes. Optimization of acetylene gas injector distance is carried out by analyzing the pressure contours at the entrance of the combustion chamber. The optimized flow rate of acetylene gas and the injector inclination is found by analyzing the flow contours of turbulent kinetic energy and turbulent dissipation rate.

Keywords Intake Manifold · Secondary Fuel Injector · Acetylene gas flow rate · CFD · RCCI engine

1 Introduction

Due to the industrial revolution that has taken place over the last decades, the role of the transport and power sectors is very significant. The invention of an internal combustion engine is a milestone in the transport and power sector that makes it easy to convert the fuel from well to the wheel of the vehicle. The fuel economy of the internal combustion engine is significantly increased by the use of new combustion technologies and by the improvement of the design of the existing engine [1]. However, a drastic

increase in demand for power is required to develop new combustion and fuel technologies to meet demand. It is further addressed that pollutants such as HC, CO, NO_x, smoke and other particulate matter (PM) emitted at the end of the combustion cycle are very harmful to human life [2]. A number of experiments have been performed using alternative fuels and fuel additives to improve efficiency and reduce emissions [3]. In the later stage of engine research, includes the variation of compression ratio, exhaust gas recirculation (EGR), improving the turbulence inside the cylinder and adopting new combustion

V. Manienyan, manienyan78@gmail.com; M. Sonachalam, altimatesona@gmail.com | ¹Department of Mechanical Engineering, Annamalai University, Annamalaiagar, India.



Praveen Kumar
PRINCIPAL
MANAGER
INSTITUTE OF SCIENCE & TECHNOLOGY
Bandlaguda, Hyd-500 005.

DESIGN AND STRUCTURAL ANALYSIS OF BRAKE DISC BY VARYING BRAKE PRESSURE.

B.VENKATESWAR REDDY

M.E., Associate Professor, Department of Mechanical Engineering, Mahaveer Institute of Science & Technology, Hyderabad.
Mail id: bvreddy01969@gmail.com

P.PRAVEEN KUMAR REDDY

M.Tech, Assistant Professor, Department of Mechanical Engineering, Mahaveer Institute of Science & Technology, Hyderabad.
Mail id: patelpraveen3386@gmail.com

Abstract:

A brake is a device utilizing which artificial frictional resistance is applied to the moving elements to stop the machine's motion. Various forces are to be considered while applying the brake for the braking effect's effective performance. Initially, the driver's force on the brake pedal is multiplied as per the pedal ratio, and this multiplied force is carried to the brake pads in the disc caliper. As a result, the frictional force is developed at the disc surface's contact area and brake pads. This developed frictional force obstructs the motion of the vehicle. The magnitude of the frictional force developed at the disc surface's contact surface, and brake pads basically depends on the force developed at the brake pedal due to the pedal ratio. In this paper, brake performance is studied under varying brake pressure. This brake pressure depends upon the pedal ratio. Along with the theoretical analysis, software like ANSYS is used to determine the disc's sustainability under varying loads obtained by varying force applied on pedal and pedal ratios.

1.INTRODUCTION

A brake is a mechanical device that inhibits motion by absorbing energy from a moving system. It is used to slow or stop a moving vehicle, wheel, or axle to impede its travel, which is most commonly done by friction.

1.1 Disc brake:

The disc brake is a device for slowing or stopping the rotation of a road wheel. A brake disc (or rotor in U.S. English), usually made of cast iron or ceramic, is connected to the wheel or the axle. To stop the tire, the friction material is mechanically, hydraulically, pneumatically, or electromagnetically pushed against both

sides of the Disc in the form of brake pads. The disc and attached wheel are caused by friction to slow or stop.

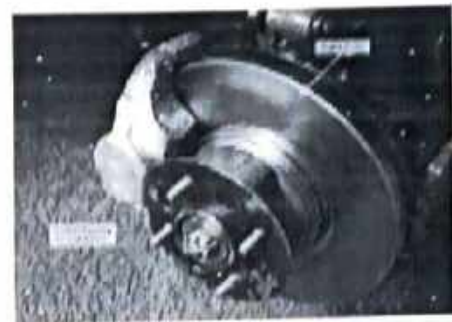


Figure 1.1: Disc Brake

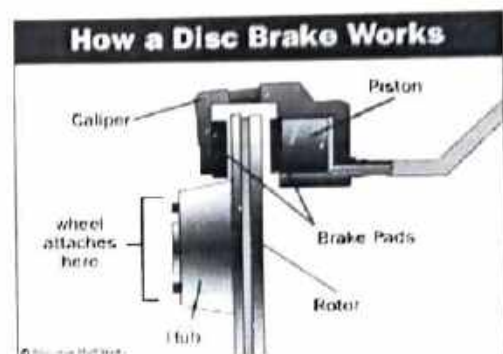


Figure 1.2 Functioning of a disc brake

2.LITERATURE REVIEW

Manjunath et al. [1] done a transient thermal and structural analysis of disc brake rotor disc using ANSYS workbench to evaluate the performance of disc brake rotor of a car under severe braking conditions and for analyzing the



COMPARATIVE ANALYSIS OF DIFFERENT MATERIAL HANDLING EQUIPMENTS

SANTHOSH KUMAR DEVARAJU

M.Tech(Ph.D), Assistant Professor
Dept. of Mechanical Engineering
Mahaveer Institute of Science and
Technology, Hyderabad
Email:devarajasantu@gmail.com

G.R.SHANMUKH DEV

M.E(Ph.D), Associate Professor
Dept. of Mechanical Engineering
Mahaveer Institute of Science and
Technology, Hyderabad
Email: gksdsv@gmail.com

ABSTRACT

The movement of raw material, semi finished products and finished products through varied stages of production and storage is termed material handling. View of old tradition of material handling sees its operation as non value adding and only contributing to the price of product. View of modern technology acknowledges the time and space utility of material handling operation. Equipment of Material handling is employed for output increase, control prices, and productivity maximization.

The various strategies used for material handling in vertical direction are inclined conveyer, lift, robots, spiral conveyors etc.

In this thesis, the design of material handling system using slider crank mechanism is compared with Lift System Conveyor and analyzed for their deformations, stresses, frequencies, directional deformations and shear stresses. The 3D models of both the designs are done in Creo 2.0.

Static Structural, Modal and Random Vibration analysis are done on both the designs by varying materials stainless Steel and Grey Cast Iron. The load applied on the Lift System Conveyor is 4 times more than that applied on the Slider Crank Mechanism.

INTRODUCTION

Material handling is loading, moving and unloading of materials. To try and do it fastidiously and cheaply, differing types of gadgets, equipment and are utilized, when the handling of

materials is said as mechanical handling of materials. Any act involving materials would like material handling. However, within the field of engineering and technology, the term material handling is employed with relevance industrial activity. In any trade, be it huge or little, producing or construction work, material need to be handled as raw material, intermediate products or finished goods from the point of receipt and storage of raw materials, through production processes and up to finished products storage and dispatch points. It conjointly price money; thus it should be eliminated or at least scale back the maximum amount as attainable. Counting on the load, volume and turnout of materials, mechanical handling of materials could become inevitable. In several cases, mechanical handling reduces the price of manual handling of materials, wherever such material handling is extremely desirable. Of these facts indicate that varieties and extent of use of material handling ought to be fastidiously designed to suit the applying and that become price effective.

Nowadays the focus is on the material handling that takes place between 2

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HYDRABAD, TELANGANA-500 005.



STUDY OF WORN TOOL MACHINING PROCESS IN CLIMB AND CONVENTIONAL MILLING

DR.G SRIKANTH REDDY

Associate Professor,
Department of Mechanical Engineering,
Mahaveer Institute of Science &
Technology
Hyderabad, Telangana-500005
Email Id: gsreddy320@gmail.com

DR. ASHISH NARAYAN

Associate Professor,
HOD, Department of
Mechanical Engineering,
Chaibasa Engineering College, Chaibasa,
West Singhbhum, Jharkhand-833215
Email Id: ashishnarayan2007@gmail.com

Abstract—There are two distinct ways to cut materials when milling, conventional (up) milling and climb (down) milling processes. The variation between these two techniques is the relationship of the rotation of the cutter to the direction of feed. The objective of this study has to find out the optimal differences in tool materials by considering both cutting types and number of flutes. The practical study has been considered on EN24 material with both HSS and carbide tool with two flute and four flute milling cutters by using CNC BM140 machining center. The work has been optimized by using Taguchi techniques of orthogonal arrays. The deformation result has been tabulated to check the variation in deformation of the component at different tools.

Keywords: Machining types; Worn Tool; Optimization Techniques and Deformation.

I. INTRODUCTION

Surface roughness is one of the significant attributes in metal cutting that is being followed in machining forms. The roughness of the surface is characterized by having the normal of the least and highest within the estimation space. In metal cutting, where a wide range of sorts of machines are being utilized. Some parameters are available and specifically influence the surface roughness. These cutting parameters can be gathered as in two gatherings: controlled and uncontrolled. In this examination, we will probably discover the viability of the controlled cutting parameters on surface

roughness and furthermore research whether the uncontrolled cutting parameters significantly affect surface roughness. Since the start of the twentieth century, a surprising measure of consideration was put into cutting procedures. By nonstop examination of the cutting procedure, factors that influence the result of the process were resolved, and after that examinations centred toward that path. When all is said in done there are three different parts of the cutting procedure: the machine, the cutting device, and the work-piece material. Among these three sections, the cutting tool has its particular significance as far as cost and effectiveness. Frederick Winslow Taylor, 1800's, performed studies about on cutting devices because of his investigations on cutting devices; Taylor figured the connection between cutting rate and tool life for various tools. The changes he oversaw in tool effectiveness and yield by utilizing his details were striking. Because of cost contemplations, more accentuation was set on tool life.

A tool that never again plays out the coveted function is said to have fizzled and along these lines achieved the finish of its valuable life. By then of time, the tool is not any more capable of doing out cutting. The tool must be either honed or



FABRICATION OF RECORD AND PLAY ROBOTIC ARM USING 3D PRINTER

SHIVANKUMAR

Assistant Professor, Mahaveer Institute of
Science & Technology, Hyderabad
shivan1974@gmail.com

MOHAMMAD SAJJAD

Assistant Professor, Mahaveer Institute of
Science & Technology, Hyderabad
sajjadmrch@gmail.com

Abstract:

As we invent of the thing that jobs which are repetitive are in the favor of killing the human creativity. In the long run world is getting better day to day. But some jobs are still stuck in the same account. Due the many factors such as higher machinery cost, high availability of labor at low capital, lack of availability of modern equipment.

Robots have the potential to replace the humans at the manufacturing line. They complete the assigned work in the less time. Functionality of these robots is purely based on the instructions given to it in the form of program. Robots are highly reliable and work efficient they keep their high point in maintain the accuracy and precision. They can function round the clock and they are not rely on the seasons. In the broad view they help us to think differently by reducing the physical work, hence they are perfect for line and repetitive jobs. On the other hand they are high on cost, and their production craves for the highly skilled people. These robots are difficult to manufacture since it require greater amount of precision. To overcome such problems and to save the material to decrease the cost a new manufacturing process need to be adopted.

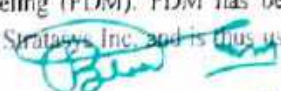
Additive manufacturing the term itself refers the process i.e. manufacturing process in which material is melted to its melting point and joined to get the desired shape. In this kind of manufacturing process only one machine is enough to get the life for a design. Hence they is need not have heavy machinery and number of machines for different functions.

Robotic arm made out of additive manufacturing would reduce the cost and makes the manufacturing process a piece of cake to illustrate this and to study about the 3d printing and to draw out the challenges faced in such a manufacturing process we opted the design.

INTRODUCTION

Additive Manufacturing: This is the official reference concept for all technology implementations in the industry (ASTM F2792). In contrast to subtractive manufacturing methodologies, it is characterized as the process of joining materials to create objects from 3D model data, typically layer upon layer. 3D printing is a rapidly expanding sector, with daily growth in popularity and uses for 3D printers. I will try to provide an introduction to the broad range of 3D printer technology in this guide, a comparison of the most popular 3D printers on the market, an overview of printing materials, online sites and communities providing 3D models or 3D printing services, and an introduction to the design and printing of your first model. Additive manufacturing methods are continually changing and new techniques are regularly explored and unveiled. However, the ASTM group 'ASTM F42-Additive Manufacturing' categorized the spectrum of Additive Manufacturing technology into 7 forms in 2019 to standardize the industry.

Material Extrusion:

One of the most popular and widely used additive production technologies is fused deposition modeling (FDM). FDM has been trademarked by  Stratasys, Inc. and is thus used



COMPARATIVE ANALYSIS OF DIFFERENT MATERIAL HANDLING EQUIPMENTS

SANTHOSH KUMAR DEVARAJU

M.Tech(Ph.D), Assistant Professor
Dept. of Mechanical Engineering
Mahaveer Institute of Science and
Technology, Hyderabad
Email:devarajusanthu@gmail.com

G.K.SHANMUKH DEV

M.E(Ph.D), Associate Professor
Dept. of Mechanical Engineering
Mahaveer Institute of Science and
Technology, Hyderabad
Email:gksdev@gmail.com

ABSTRACT

The movement of raw material, semi-finished products and finished products through various stages of production and storage is termed material handling. View of old tradition of material handling sets its operation as non-value adding and only contributing to the price of product. View of modern technology acknowledges the time and space utility of material handling operation. Equipment of Material handling is employed for output increase, control prices, and productivity maximization.

The various strategies used for material handling in vertical direction are inclined conveyor, lift, robots, spiral conveyors etc.

In this thesis, the design of material handling system using slider-crank mechanism is compared with Lift System Conveyor and analyzed for their deformations, stresses, frequencies, directional deformations and shear stresses. The 3D models of both the designs are done in Creo 2.0.

Static, Structural, Modal and Random Vibration analysis are done on both the designs by varying materials stainless Steel and Grey Cast Iron. The load applied on the Lift System Conveyor is 4 times more than that applied on the Slider Crank Mechanism.

INTRODUCTION

Material handling is loading, moving and unloading of materials. To try and do it fastidiously and cheaply, differing types of gadgets, equipment and are utilized, when the handling of

materials is said as mechanical handling of materials. Any act involving materials would like material handling. However, within the field of engineering and technology, the term material handling is employed with relevance industrial activity. In any trade, be it huge or little, producing or construction work, material need to be handled as raw material, intermediate products or finished goods from the point of receipt and storage of raw materials, through production processes and up to finished products storage and dispatch points. It conjointly price money; thus it should be eliminated or at least scale back the maximum amount as attainable. Counting on the load, volume and turnout of materials, mechanical handling of materials could become inevitable. In several cases, mechanical handling reduces the price of manual handling of materials, wherever such material handling is extremely desirable. Of these facts indicate that varieties and extent of use of material handling ought to be fastidiously designed to suit the applying and that become price effective.

Nowadays the focus is on the material handling that takes place between 2



SOLAR POWER OPERATED GRASS CUTTER AND PESTICIDES SPREADER ROBOT

Pragya B, Asst Prof
Department of Mechanical Engineering
Mahaveer Institute of Science and
Technology, Hyderabad

V. Krishna Deepak, Asst. Prof.
Department of Mechanical Engineering,
Mahaveer Institute of Science and
Technology, Hyderabad.

Abstract

A Solar Powered Automatic Grass Cutting and Pesticide Spreading robot is made to reduce the manpower and usage of chemicals. Solar panel is used to provide the source to the battery, charging it is an automated system for the purpose of grass cutting. The source is taken from the solar energy by using solar plate. The system control is done by the Bluetooth control. Automation is achieved by using sensors and Bluetooth controls. Wheels and cutting operations are done using dc motors. A battery is utilized for powering and standby mode operation of the system. The whole supply is provided through the battery and to charge the battery charger circuit is used to provide the charging for the battery. Also the use and application is that the spreading of pesticide here we used the water pump with spreading nozzle.

INTRODUCTION

In Modern world, Automation robot is used in many of the fields such as defense, surveillance, medical field, industries and so on. In this project, the robot system is used to develop the process of cultivating agricultural land with the use of solar power. The aim of the project is to reduce the man power, time and increase the productivity rate. The entire basic robot works like harvesting, Grass cutting, water sprinkling and so on. Here the designing systems, like plough the land, watering the plant or spraying the fertilizer and cutting grass are preferred by this robot using Solar panel, battery, Rack and pinion and DC motor.

The device consists of Solar panel, Battery, Microcontroller, DC motors, motor driver, Bluetooth module, water pump. The controller works between each of them as an intermediary medium. The controller may thus be called a control panel. The controller may thus be called a control panel. The input module is nothing a switch board to which mobile transmitter is interfaced.

When the user presses a switch the data will be transmitted over Bluetooth transmitter. The data will be received by the Bluetooth receiver and is fed to controller. The Microcontroller acts accordingly to program and switches the Relays to which Action to be operated like grass cutting, robot controlling, seed dropping, pesticide sprinkling etc.. The Microcontroller used in the project is programmed using Embedded C language.

LITERATURE REVIEW

The condenser is a passive unit, also referred to as a condenser, and one that stores energy in the form of an electrostatic field that creates a potential (static voltage) across its plates. A capacitor consists of two parallel conductive plates in its basic form, which are not connected but are either electrically separated by air or by an isolating material called the Dielectric.

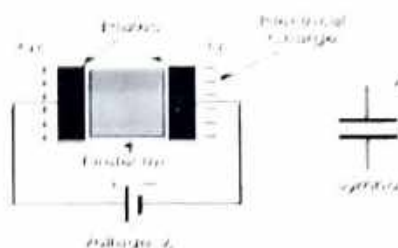


Fig 1: Construction Of a Capacitor



Fig 2: Electrolytic Capacitor

Units of Capacitance

Pragya B

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MAHAVEER



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Nageswar B, Asst.Prof.
 Department of Mechanical Engineering,
 Mahaveer Institute of Science and
 Technology, Hyderabad.

E. Krishna Deepak, Asst. Prof.
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Abstract:

A Solar Powered Automatic Grass Cutting and Pesticide Spreading robot project is mainly to reduce the manpower and usage of electricity. Solar panel is used to provide the source to the battery charging. It is an automated system for the purpose of grass cutting. The source is drive from the solar energy by using solar plate. The system control is done by the Bluetooth control. Automation is achieved by using sensors and Bluetooth controls. Wheels and cutting operations are done using dc motors. DC battery is utilized for powering and standby mode operation of the system. The whole supply is provided through the battery and to charge the battery charger circuit is used to provide the charging for the battery. Also the second application is that the spreading of pesticide here we used the water pump with spreading nozzle.

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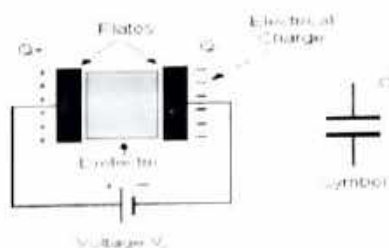


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DESIGN AND STRUCTURAL ANALYSIS OF BRAKE DISC BY VARYING BRAKE PRESSURE

B.VENKATESWAR REDDY

M.E., Associate Professor, Department of Mechanical Engineering, Mahaveer Institute of Science & Technology, Hyderabad.
Mail id: bvreddy01969@gmail.com

P.PRAVEEN KUMAR REDDY

M.Tech, Assistant Professor, Department of Mechanical Engineering, Mahaveer Institute of Science & Technology, Hyderabad.
Mail id: patelpraveen338@gmail.com

Abstract:

A brake is a device utilizing which artificial frictional resistance is applied to the moving elements to stop the machine's motion. Various forces are to be considered while applying the brake for the braking effect's effective performance. Initially, the driver's force on the brake pedal is multiplied as per the pedal ratio, and this multiplied force is carried to the brake pads in the disc caliper. As a result, the frictional force is developed at the disc surface's contact area and brake pads. This developed frictional force obstructs the motion of the vehicle. The magnitude of the frictional force developed at the disc surface's contact surface, and brake pads basically depends on the force developed at the brake pedal due to the pedal ratio. In this paper, brake performance is studied under varying brake pressure. This brake pressure depends upon the pedal ratio. Along with the theoretical analysis, software like ANSYS is used to determine the disc's sustainability under varying loads obtained by varying force applied on pedal and pedal ratios.

1.INTRODUCTION

A brake is a mechanical device that inhibits motion by absorbing energy from a moving system. It is used to slow or stop a moving vehicle, wheel, or axle to impede its travel, which is most commonly done by friction.

1.1 Disc brake:

The disc brake is a device for slowing or stopping the rotation of a road wheel. A brake disc (or rotor in U.S. English), usually made of cast iron or ceramic, is connected to the wheel or the axle. To stop the tire, the friction material is mechanically, hydraulically, pneumatically, or electromagnetically pushed against both

sides of the Disc in the form of brake pads. The disc and attached wheel are caused by friction to slow or stop.



Figure 1.1: Disc Brake

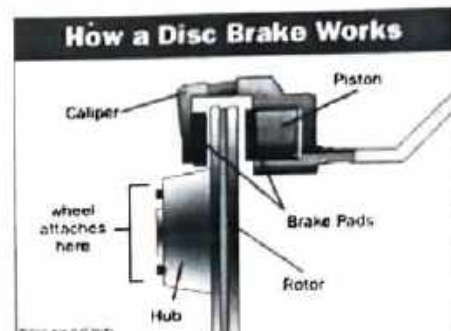


Figure 1.2 Functioning of a disc brake

2.LITERATURE REVIEW

Manjunath et al. [1] done a transient thermal and structural analysis of disc brake rotor disc using ANSYS workbench to evaluate the performance of disc brake rotor of a car under severe braking conditions and for analyzing the

PRINCIPAL
MAHAVEER
INSTITUTE OF SCIENCE & TECHNOLOGY
Banjara Hills, Hyd-500 005.



SOLAR POWER OPERATED GRASS CUTTER AND PESTICIDES SPREADER ROBOT

Nageswar B, Asst.Prof.
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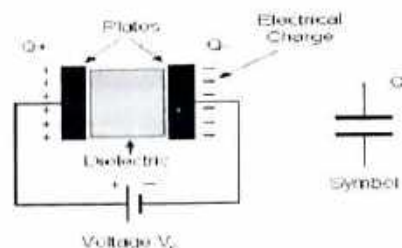


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OPTIMIZATION RESISTANCE SPOT WELDING PARAMETERS BY TAGUCHI METHOD TO IMPROVE WELD QUALITY

M.Narsimha

Asst.Prof, Dept of Mechanical, Mahaveer
Institute of Science and Technology
Hyderabad.

Faiz Ali

Asst. Prof, Dept. of, Dept of Mechanical,
Mahaveer Institute of Science and
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Abstract:

Almost a hundred years ago, the resistance spot welding process was introduced. Since then, in almost all industries that need to unite sheet metal parts together, it has found extensive use. Resistance spot welding (RSW) is commonly used in the car industry for its low cost, high speed, simple mechanism and automation applicability.

In particular, its use is of great significance in the automotive industry, as each vehicle requires approximately 5000 spot welds in its assembly process. This project work discusses the optimization of different resistance spot welding parameters in order to increase the efficiency of welds. The experimental studies to be carried out for the joining of two DPs under different welding power, welding current and welding time. In this investigation, the quality characteristics (direct tensile strength and shear tensile strength) has been considered. D.P(dual phase) steel is used in this analysis as a sheet metal works piece.

In order to extract the experiment data in a controlled way for Taguchi statistical analysis, L9 Orthogonal Array is to be used. In this study, three levels are considered for each process parameter. The experiments will be conducted as per the pattern of L9 Orthogonal Array. The optimum welding parameter combination was obtained by using analysis of signal to noise(S/N) ratio. Analysis of variance (ANOVA) is the statistical treatment most commonly applied to the results of the experiments to determine the percentage contribution of each parameter against a stated level of confidence.

The experiment results reveal that the most significant spot-welding parameters that are affecting the strength of the spot-welded joint both in 1.5mm and 2mm. The optimum spot-welding parameters were established, and they are confirmed by using validation experiments.

INTRODUCTION

Resistance spot welding (RSW) is widely used for joining purposes due to its robustness, speed, flexibility and low cost operation, especially in the automotive industry. These benefits come from its operating theory, which uses the idea of electrical resistance. Between two electrodes, the metal to be joined is positioned and pressure applied and the current turned on. Basically, the RSW process consists of four stages: the squeeze cycle, the welding cycle, the hold cycle and the off cycle. The squeeze cycle is a phase in which the upper electrode is brought into contact with the sheets to be welded and the welding area is exerted by force. While the weld cycle is a phase during which the current is switched on and the sheet interface is immune to current flow, creating a nugget. The hold period is when the current is shut off and allows the fully grown nugget to cool slowly and solidify under constant pressure. The final time during which the electrode is raised from the welded sheets is the off-stage. Present, time electrode power, contact resistance and sheet material are major variables regulating this process. The performance is best measured by nugget size and joint strength. The regulation of welding parameters plays an important role in welding efficiency. It is therefore necessary to select the parameters of the welding process to obtain the optimum weld nugget size. The unique welding machine and setting, however, does not guarantee this. Different optimization methods can be implemented to define the desired output variables by creating mathematical models to determine the



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SHRAVANKUMAR

Assistant Professor, Mahaveer Institute of
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Material Extrusion:

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TIG WELDING PROCESS PARAMETERS OPTIMIZATION FOR STAINLESS STEEL MATERIALS USING REGRESSION ANALYSIS

MACHARLA ANIL

M.Tech, Assistant Professor, Department of Mechanical Engineering, Mahaveer Institute of Science & Technology, Hyderabad.
 macharlaanil321@gmail.com

P.PRAVEEN KUMAR REDDY

M.Tech, Assistant Professor, Department of Mechanical Engineering, Mahaveer Institute of Science & Technology, Hyderabad.
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ABSTRACT:

In today's manufacturing market, mainly quality and productivity play a significant role. Every manufacturing firm aims at producing a larger number of units within a short time. The experiments have been planned using the design of experiments and followed by regression analysis. The welding parameters used are Weld current (I amp), Gas flow rate (FR), (mm) and Root Gap (r, mm). The effect of welding parameters distortion (mm) and tensile strength (N/mm²) can be calculate and the optimum welding condition can be determined to mitigate distortion and tensile strength. An L4 orthogonal array was taken for an experimental layout to analyze each parameter's effect on the welding characteristics and predict each weld parameter's optimal choice, such as weld current, Gas flow rate, and root gap. The impact of this parameter in Distortion (D) and Tensile Strength (TS) is analyzed. Optimization of welding parameters is valuable in terms of providing high precision and efficient welding for massive structures. Optimization of welding parameters is essential for a manufacturing unit to respond effectively to fierce competitiveness and increasing demand for quality products in the market. In the welding process, the optimization of weld process parameters is considered a vital tool for improving the output quality and reducing the overall production time.

Keywords: Universal testing machine, TIG welding, Anova, etc

1. INTRODUCTION

Welding is the powerful metal joining techniques used in the industrial sector. Even after evaluating several modern manufacturing techniques, welding still

plays a vital role on the shop floor. GTAW is flexible and can be used in both welding positions on ferrous and nonferrous metals and, depending on the base metal. The

technique may be used with or without filler metal to weld thin or dense materials. Filler metals are not used for welding thinner materials, edge joints, and flanges. For thicker fabrics, an externally fed filler wire is generally used. The type of filler metal wire used is based on the chemical analysis of the base metal. The filler metal wire size depends on the base metal's thickness, which typically determines the current of welding. The process methods can be manual or automatic for GTAW, which typically determines the current of welding. The process methods can be manual or automatic for GTAW.

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MAHAVEER



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Almost a hundred years ago, the resistance spot welding process was introduced. Since then, in almost all industries that need to unite sheet metal parts together, it has found extensive use. Resistance spot welding (RSW) is commonly used in the car industry for its low cost, high speed, simple mechanism and automation applicability.

In particular, its use is of great significance in the automotive industry, as each vehicle requires approximately 5000 spot welds in its assembly process. This project work discusses the optimization of different resistance spot welding parameters in order to increase the efficiency of welds. The experimental studies to be carried out for the joining of two DPs under different welding power, welding current and welding time. In this investigation the quality characteristics (direct tensile strength and shear tensile strength) has been considered. D.P(dual phase) steel is used in this analysis as a sheet metal works piece.

In order to extract the experiment data in a controlled way for Taguchi statistical analysis, L9 Orthogonal Array is to be used. In this study, three levels are considered for each process parameter. The experiments will be conducted as per the pattern of L9 Orthogonal Array. The optimum welding parameter combination was obtained by using analysis of signal to noise(S/N) ratio. Analysis of variance (ANOVA) is the statistical treatment most commonly applied to the results of the experiments to determine the percentage contribution of each parameter against a stated level of confidence

The experiment results reveal that the most significant spot-welding parameters that are affecting the strength of the spot-welded joint both in 1.5mm and 2mm. The optimum spot-welding parameters were established, and they are confirmed by using validation experiments.

INTRODUCTION

Resistance spot welding (RSW) is widely used for joining purposes due to its robustness, speed, flexibility and low cost operation, especially in the automotive industry. These benefits come from its operating theory, which uses the idea of electrical resistance. Between two electrodes, the metal to be joined is positioned and pressure applied and the current turned on. Basically, the RSW process consists of four stages: the squeeze cycle, the welding cycle, the hold cycle and the off cycle. The squeeze cycle is a phase in which the upper electrode is brought into contact with the sheets to be welded and the welding area is exerted by force. While the weld cycle is a phase during which the current is switched on and the sheet interface is immune to current flow, creating a nugget. The hold period is when the current is shut off and allows the fully grown nugget to cool slowly and solidify under constant pressure. The final time during which the electrode is raised from the welded sheets is the off-stage. Present, time electrode power, contact resistance and sheet material are major variables regulating this process. The performance is best measured by nugget size and joint strength. The regulation of welding parameters plays an important role in welding efficiency. It is therefore necessary to select the parameters of the welding process to obtain the optimum weld nugget size. The unique welding machine and setting, however, does not guarantee this. Different optimization methods can be implemented to define the desired output variables by creating mathematical models to determine the



FABRICATION OF RECORD AND PLAY ROBOTIC ARM USING 3D PRINTER

SHRAYANKUMAR

Assistant Professor, Mahaveer Institute of
Science & Technology, Hyderabad
tsagar073@gmail.com

MOHAMMAD. SAZZAD

Assistant Professor, Mahaveer Institute of
Science & Technology, Hyderabad
sajjadmoh02@gmail.com

Abstract:

As we aware of the thing that jobs which are repetitive are in the favor of killing the human creativity. In the long run world is getting better day to day. But some jobs are still stuck in the same accent. Due to the many factors such as higher machinery cost, high availability of labor at low capital, lack of availability of modern equipment.

Robots have the potential to replace the humans at the manufacturing line. They complete the assigned work in the less time. Functionality of these robots is purely based on the instructions given to it in the form of program. Robots are highly reliable and works efficient they keep their high point in maintain the accuracy and precision. They can function round the clock and they are not rely on the seasons. In the broad view they help us to think differently by reducing the physical work, hence they are perfect for line and repetitive jobs. On the other hand they are high on cost, and their production craves for the highly skilled people. These robots are difficult to manufacture since it require greater amount of precision. To overcome such problems and to save the material to decrease the cost a new manufacturing process need to be adopted.

Additive manufacturing the term itself refers the process i.e. manufacturing process in which material is melted to its melting point and joined to get the desired shape. In this kind of manufacturing process only one machine is enough to get the life for a design. Hence they is need not have heavy machinery and number of machines for different functions.

Robotic arm made out of additive manufacturing would reduce the cost and makes the manufacturing process a piece of cake to illustrate this and to study about the 3d printing and to draw out the challenges faced in such a manufacturing process we opted the design.

INTRODUCTION

Additive Manufacturing: This is the official reference concept for all technology implementations in the industry (ASTM F2792). In contrast to subtractive manufacturing methodologies, it is characterized as the process of joining materials to create objects from 3D model data, typically layer upon layer. 3D printing is a rapidly expanding sector, with daily growth in popularity and uses for 3D printers. I will try to provide an introduction to the broad range of 3D printer technology in this guide, a comparison of the most popular 3D printers on the market, an overview of printing materials, online sites and communities providing 3D models or 3D printing services, and an introduction to the design and printing of your first model. Additive manufacturing methods are continually changing and new techniques are regularly explored and unveiled. However, the ASTM group 'ASTM F42-Additive Manufacturing' categorized the spectrum of Additive Manufacturing technology into 7 forms in 2010 to standardize the industry.

Material Extrusion:

One of the most popular and widely used additive production technologies is fused deposition modelling (FDM). FDM has been trademarked by Stratasys, Inc., and is thus used

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MAHAVEER
INSTITUTE OF SCIENCE & TECHNOLOGY
HYDRABAD



GO-KART VEHICLE CHASSIS MODIFICATION USING ANSYS

K. DEVISINGHI

Asst. Prof, Dept. of Mechanical, Mahaveer
Institute of Science & Technology,
Hyderabad.

M. SONACHALAM

Asst. Prof, Dept. of Mechanical, Mahaveer
Institute of Science & Technology,
Hyderabad.

Abstract:

A off road vehicle (Go Kart) is a small four wheeled vehicle with open wheels. Go Karts come in all shapes and forms, from motor fever models to high powered racing machines. Go Karts can be powered by 4-stroke engines or electric motors. The modeling of the go-kart is firmly based upon the driver ergonomics and the weight of the components like engine, steering column, transmission system and other components required to promote the motion of the Kart. All the modeling has to be done in such a way that the weight of the kart is minimum and the parameters defined are as per the standards mentioned in the 'World Karting Association'. The basic motto of the work is to design a go-kart which is safe and functional on rigid and torsional considerations by keeping a keen eye on the parameters mentioned as per the World Karting Association standards. The design chosen fits perfectly in the parameters as per the standards of the World Karting Association and which is also perfect in view of functional, safety and ergonomics according to driver feasibility. The design of kart is so easy that the chances of mistakes while manufacturing is reduced to a very lowest value.

INTRODUCTION

The Go-kart is a compact, simple, lightweight and easy to operate vehicle. The go-kart is designed for flat track racing so, its ground clearance is very small as compared to other vehicles hence it skips the suspension. The engine, steering, axle, tires, and bumpers are the go-kart components. The go-kart engine is either a two-stroke or a four-stroke engine. Instead of the car, known as the eco-kart, electric motors are also used.

The chassis is independent of suspension to experience the thrill. Given its simplicity, cost and safer way to race, go-karting is a great outlet for those interested in racing. This kind of vehicle is specifically designed and manufactured for racing due to low ground clearance. Chassis should be hearded in one of the key components of this vehicle as the overall weight of the vehicle. Because of this, the chassis should have stability and power. For people who are interested in racing because of its low cost, simple construction and safer way of racing, go-karting is an exciting and great sports car. (Alex et al, 2001). There may be an indoor or outdoor race circuit. This venture is planned to be a model of the go-kart chassis which is constructed with the circular cross-section beams. Modeling is performed on SOLIDWORKS software. The chassis is built so that fewer pipes and the ability to withstand the optimum loads applied to it are needed. Usually, they are raced with no pits and speed breakers on almost every simple track. This is considered the first vehicle to begin a career in the world of racing. In the USA and most of the developed countries in the world, these cars, now called "Go-Karts" have evolved into a billion-dollar industry. They are manufactured, marketed, and used exclusively as leisure racers. These vehicles are not, however, intended for transportation and transport, are

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EMAILID: anveshanaindia@gmail.com, WEBSITE: www.anveshanaindia.comMAHAVEER INSTITUTE OF SCIENCE & TECHNOLOGY
Bandlaguda, Hyd-500 004.

Enhancement of Tribological properties of Mild Steel using ZrO₂ Nano Particles

Mohd Inayathullah, Dr. B. Nageswara Rao, D.Santhosh

Student, Professor, Assistant Professor

MIST

Abstract - Now-a-days, steel has become an important part of our life due to its extensive applications in automotive, household appliances, business machine and heavy construction such as marine and chemical industries. Mild steel is selected for construction because of its mechanical properties and machine-ability at a low price, while at the same time; they have to be resisted against corrosion phenomena. For this study, ZrO₂ nano particles were synthesized by solution combustion process and size was found to be 45 nm from X-ray diffraction. Plate sample (10x10x3 mm) of mild steel was used as a substrate and after Polishing to about Ra 20 µm using Al₂O₃ slurry; the samples were first cleaned with acetone and then ultrasonically cleaned in ethanol, then heat-treated at different temperatures like 400°C and 500°C in a muffle furnace. After heat treatment the samples are coated by applying ZrO₂ nano particles with an airbrush device. Coated samples are tested for surface roughness, X-Ray Diffraction (XRD), Scanning Electron Microscopy (SEM). Now-a-days, steel has become an important part of our life due to its extensive applications in automotive, household appliances, business machine and heavy construction such as marine and chemical industries. Mild steel is selected for construction because of its mechanical properties and machine-ability at a low price, while at the same time; they have to be resisted against corrosion phenomena. For this study, ZrO₂ nano particles were synthesized by solution combustion process and size was found to be 45 nm from X-ray diffraction. Plate sample (10x10x3 mm) of mild steel was used as a substrate and after Polishing to about Ra 20 µm using Al₂O₃ slurry; the samples were first cleaned with acetone and then ultrasonically cleaned in ethanol, then heat-treated at different temperatures like 400°C and 500°C in a muffle furnace. After heat treatment the samples are coated by applying ZrO₂ nano particles with an airbrush device. Coated samples are tested for surface roughness, X-Ray Diffraction (XRD), Scanning Electron Microscopy (SEM).

Keywords - ZrO₂, Surface Roughness, Airbrush device, XRD, SEM & EDX

1. INTRODUCTION

In present-days automobile vehicles have more inner components parts in the system. Those parts are more hard-wearing and more heat-resistant. The auto engine wastes a lot of fuel and to create a pollution because of incomplete gas combustion. Now nanotechnology and nano materials are likely to play a significant role in sparkplugs. Since nano materials are strongest, harder and resist wear and erosion, they are currently being considered for the use in sparkplug. The interest for nano structured ceramic materials which are synthesized in dimensions smaller than 100 nm has been growing in the last decades. The interest has been stimulated by the large variety of applications in industries such as fabrication of dense ceramics, sensors, batteries, capacitors, corrosion-resistant coatings, thermal barrier coatings, solid electrolytes for fuel cells, catalysts, cosmetics, health, automotive, bioengineering, optoelectronics, computers, and electronics etc. This paper investigated about Microstructure, phase structure, oxygen content and micro hardness of the coated material and heat-treated at different temperatures like 400°C and 500°C in a muffle furnace. Coated samples were characterized by XRD, SEM and EDX.

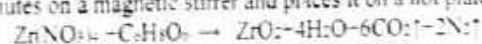
2. EXPERIMENTAL DETAILS

2.1 MATERIAL USED:

- Zr(NO₃)₄
- Ascorbic acid C₆H₈O₆
- Mild steel plate (10 x 10 x 3 mm)

2.2 SYNTHESIS OF ZrO₂ NANO PARTICLES USING SOLUTION COMBUSTION PROCESS

ZrO₂ is prepared by solution combustion process 1:1.69 ratio amounts of zirconium nitrate and ascorbic acid is taken into a beaker and stirred it for 30 minutes on a magnetic stirrer and places it on a hot plate (~1000°C) [7].



heating rapidly the solution containing the redox mixture boils, frothing, smoldering, flaming, fumes and catches fire and burns with an incandescent flame to yield ZrO₂ with the evolution of large amount of gases like carbon dioxide, hydrogen oxide in the form of flames and the procedure had shown in the Figure 1 & Figure 2.

Kanhu

PRINCIPAL
MAHAVEER
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Bandlaguda, Hyd-500 005.

REVIEW ON THE SPRAYING PROCESS IN THERMAL POWER PLANTS

Shravankumar

Research Scholar, Sri Satya Sai University of Technology & Medical Sciences,
Sohore, Madhya Pradesh, India

Dr. G.R. Selokar

Professor, Sri Satya Sai University of Technology & Medical Sciences,
Sohore, Madhya Pradesh, India

Dr. B Nageshwar Rao

Professor, Mahaveer Institute of Science & Technology, Hyderabad, India

ABSTRACT

A coating may be a covering method that's applied to the surface of a fabric that is referred to because the substrate. The coating itself is either utterly coated through the total surface or the particular elements of the substrate. Thermal spray coating is one in every of the foremost effective ways to shield the new elements from wear, high temperature corrosion, residual stresses, erosion, and to produce exhausting and dense coatings, therefore life of material is multiplied. During this method, comparatively thick gilded, polymer, ceramic and composite coatings is deposited. The optimum coating method is chosen on the idea of desired coating properties. Coating material is either within the type of wire, powder, rod, wire or molten-bath kind. The procedure is manual, mechanized or absolutely machine-driven. This paper reviews the previous research in the sector of thermal spray coating.

Keywords: Thermal spray coating, high velocity oxygen fuel coating, detonation gun coating, characterization.

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<http://www.iaeme.com/IJARET/issues.asp?JType=IJARET&VType=11&IType=11>

1. INTRODUCTION

Improvement of coating properties and increasing their realm of application square measure inseparably joined with the matter of spray optimisation. For the thermal spray method (TSP), as for any advanced multi-parameter method, the quality optimisation drawback may be divided as follows: (I) to work out the first governing parameters to be optimized, i.e., those

Enhancement of Tribological properties of Mild Steel using ZrO₂ Nano Particles

(Mohd InayathUllah, Dr. B. Nageswara Rao, D.Santhosh
Student, Professor, Assistant Professor
MIST

Abstract - Now-a-days, steel has become an important part of our life due to its extensive applications in automotive, household appliances, business machine and heavy construction such as marine and chemical industries. Mild steel is selected for construction because of its mechanical properties and machine-ability at a low price, while at the same time; they have to be resisted against corrosion phenomena. For this study, ZrO₂ nano particles were synthesized by solution combustion process and size was found to be 45 nm from X-ray diffraction. Plate sample (10x10x3 mm) of mild steel was used as a substrate and after Polishing to about Ra 20 µm using Al₂O₃ slurry; the samples were first cleaned with acetone and then ultrasonically cleaned in ethanol, then heat-treated at different temperatures like 400°C and 500°C in a muffle furnace. After heat treatment the samples are coated by applying ZrO₂ nano particles with an airbrush device. Coated samples are tested for surface roughness, X-Ray Diffraction (XRD), Scanning Electron Microscopy (SEM). Now-a-days, steel has become an important part of our life due to its extensive applications in automotive, household appliances, business machine and heavy construction such as marine and chemical industries. Mild steel is selected for construction because of its mechanical properties and machine-ability at a low price, while at the same time; they have to be resisted against corrosion phenomena. For this study, ZrO₂ nano particles were synthesized by solution combustion process and size was found to be 45 nm from X-ray diffraction. Plate sample (10x10x3 mm) of mild steel was used as a substrate and after Polishing to about Ra 20 µm using Al₂O₃ slurry; the samples were first cleaned with acetone and then ultrasonically cleaned in ethanol, then heat-treated at different temperatures like 400°C and 500°C in a muffle furnace. After heat treatment the samples are coated by applying ZrO₂ nano particles with an airbrush device. Coated samples are tested for surface roughness, X-Ray Diffraction (XRD), Scanning Electron Microscopy (SEM).

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1. INTRODUCTION

In present-days automobile vehicles have more inner components parts in the system, Those parts are more hard-wearing and more heat-resistant. The auto engine wastes a lot of fuel and to create a population because of incomplete gas combustion. Now nanotechnology and nano materials are likely to play a significant role in sparkplugs. Since nano materials are strongest, harder and resist wear and erosion, they are currently being considered for the use in sparkplug. The interest for nano structured ceramic materials which are synthesized in dimensions smaller than 100 nm has been growing in the last decades. The interest has been stimulated by the large variety of applications in industries such as fabrication of dense ceramics, sensors, batteries, capacitors, corrosion-resistant coatings, thermal barrier coatings, solid electrolytes for fuel cells, catalysts, cosmetics, health, automotive, bioengineering, optoelectronics, computers, and electronics etc. This paper investigated about Microstructure, phase structure, oxygen content and micro hardness of the coated material and heat-treated at different temperatures like 400°C and 500°C in a muffle furnace. Coated samples were characterized by XRD, SEM and EDX.

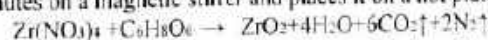
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Bandlaguda, Hyd-500 005.

SENSITIVITY & OPTIMAL DESIGN OF A BI-DIRECTIONAL MECHANICAL MACHINE WITH MODULATED DOUBLE FLOW

Harish Harsurkar

Research Scholar, Department of Mechanical Engineering
Sri Satya Sai University of Technology & Medical Sciences (SSSUTMS),
Sehore (M.P), India

Dr. G.R. Selokar

Professor, Department of Mechanical Engineering
Sri Satya Sai University of Technology & Medical Sciences (SSSUTMS),
Sehore (M.P), India

Dr. B Nageshwar Rao

Professor, Department of Mechanical Engineering
Mahaveer Institute of Science & Technology, Hyderabad, India

ABSTRACT

In this paper Sensitivity & Optimal Design of a Bi-Directional Mechanical Machine with Modulated Double Flow is proposed. Aim is control the inward rotor position with a little servo engine and with the bi-directional motion regulation impact, the resultant instigated voltages in two arrangements of stator windings can be balanced likewise. Thus, in a wide wind speed run the different speed consistent adequacy voltage activity is figured it out. The epi-structure possesses two significant benefits. Initially, it has high dependability without those support issues brought about by mechanical gearboxes, slip ring get together and brushes. Furthermore, the proposed framework requires a minimal effort uncontrolled diode rectifier which upgrades the unwavering quality and diminishes the expense of framework. The investigative model and activity rule of the BFMPM machine are represented and the reenactment results utilizing limited component strategy (FEM) is introduced. A model is enhanced and created. The trial results concur well with the recreation results and confirm the rightness of the systematic model and the viability of the proposed structure.



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INSTITUTE OF SCIENCE & TECHNOLOGY
Bandlaguda, Hyderabad-500 005,
editor@iaeme.com

REVIEW ON DYNAMIC RESPONSE IN HYDRAULIC EQUIPMENT

Sharanagouda Hadimani

Research Scholar, Sri Satya Sai University of Technology & Medical Sciences,
Sohore, Madhya Pradesh, India.

Dr.G.R.Selokar

Research Scholar, Sri Satya Sai University of Technology & Medical Sciences,
Sohore, Madhya Pradesh, India.

Dr.B Nageshwar Rao

Professor, Mahaveer Institute of Science & Technology,
Hyderabad, Telangana, India.

ABSTRACT

Great unique reaction is the vital factor of the water driven control arrangement of the cutting framework. As per building up the numerical model of the water powered segments and PC recreation, the dynamic reaction can be noticed quickly. And afterward the plan can be streamlined by changing the comparing boundaries advantageously. Besides, we can likewise anticipate the framework reaction ahead of time and expert the dynamic trademark. The two of them can supplies the hypothetical reason for the plan of the water driven control arrangement of the cutting framework. The time reaction of the determined burden can be anticipated by mimicking the dynamic model. It's infeasible to break down the water powered control framework precisely because of the extraordinary property of the liquid and the non-linearity of the pressure driven control framework. Notwithstanding, the outcomes can meet with the designing prerequisites by making the non-straight framework direct. Simultaneously, it is assumed that the pipelines are short, and the illness of the liquid in the pipeline and liquid opposition can be dismissed. The help valve can be viewed as static segment without thinking about the impact of the liquid capacitance.

Keywords: Hydraulic, Dynamic Response, Machine, Pascal's Principle.

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<http://www.iaeme.com/IJARET/issues.asp?IType=IJARET&VType=11&IType=11>

Design & Analysis of Dynamic Response in Hydraulic Equipment Working with Heavy Loads

Sharanagouda Hadimani, Nilesh Diwakar, G.R. Selokar, B Nageshwar Rao

Abstract: Hydraulic system has benefits over pneumatic or electric systems, especially when heavy loads are involved, or when very smooth and precise position or pressure control is required. Hydraulic actuators have several advantages including the fact that they produce less heat and electrical interference at the machine than do electric actuators. A simulation model of the support was established to determine the dynamic responses of the hydraulic support under dual impacts from its roof and shield beams, and the column and balance jack were replaced using a spring-damper system. Analysis of poses was performed and dynamic support responses were obtained.

Keywords: Hydraulic, Machine, Dynamic Response.

I. INTRODUCTION

Hydraulic system has benefits over pneumatic or electric systems, especially when heavy loads are involved, or when very smooth and precise position or pressure control is required. Hydraulic actuators have several advantages including the fact that they produce less heat and electrical interference at the machine than do electric actuators. But there still some problems encountered in power hydraulics such as the unjustified energy losses at throttles through the entire system. Cylinder actuators are the one of the hydraulic system components that causes a lot of energy losses in power transmission and control. A conventional double acting differential hydraulic cylinder has two ports of small cross sectional areas. When the cylinder is actuated by supplying pressure at either port; the piston starts to move away as a result of the force difference on the two sides of piston; the piston push the oil out of the cylinder through the other port; the oil flow is highly restricted by the small area of the outlet port. The small sized port acts as an orifice and resists the migration of the incompressible oil from the cylinder; consequently the piston motion is slowed down. The energy lost in this process is converted to heat within the oil and add an additional load to the pump. The ports in hydraulic cylinders act as orifices for oil flowing through it. Provided the fluid speed is sufficiently subsonic ($V \sim \text{Mach } 0.3$), the incompressible Bernoulli's equation for laminar flows, can be used reasonably well in obtaining the pressure drop through the cylinder ports. Typical hydraulic press consists of a pump which provides the motive power for the fluid, the fluid itself which is the medium of power transmission through hydraulic pipes and connectors, control devices and the hydraulic motor which converts the hydraulic

energy into useful work at the point of load resistance. The performance of a hydraulic press depends, largely, upon the behaviour of its structure during operation. However, these welded structures are becoming complicated and their accurate analysis under given loading conditions is quite important to the structural designer. Hence it is found that optimal design of a hydraulic press in terms of its weight is the need of the hour. In this we covered introduction of hydraulic system, flexible working hydraulic system, mathematical modeling of hydraulic components, hydraulic drive and heavy loads. In this chapter we clearly stated that the detailed description of the title relevant contents. Mainly we focused problem statements and objective of the study.

II. PROPOSED WORK

The numerical simulation model of hydraulic support is established as shown in Fig. 1, where 1 is the upper beam, 2 is the leg, 3 is the base, 4 is the rear bar, 5 is the front bar, 6 is the shield beam, 7 is the balance jam, and a-c are the panel points. The model height is set to the maximum working height of the hydraulic support. First, material properties of components are determined, including density (7860 kg/m^3), Young's modulus ($2.1 \cdot 10^{11} \text{ Pa}$) and Poisson's ratio (0.3). The column and balance jack of the hydraulic support are replaced equivalently by the spring-damping system.



Figure 1: Simulation model of the hydraulic support. Hinge joints between the roof beam and shield beam, between the shield beam and front and back connecting rods, and between the front and back connecting rods and the base are used by "revolution joints". Friction coefficients in "revolution joints" are set to 0.1. The support base serves as the rack and is locked on the ground by the rigid body and "fixed joints". Finally, the gravitational field is applied perpendicular to the support base.

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* Correspondence Author

Sharanagouda Hadimani*, Dept. of Mechanical Engineering, Sri Satva Sai University of Technology & Medical Sciences, Sehore, MP, India

Dr. Nilesh Diwakar, Dept. of Mechanical Engineering, Sri Satva Sai University of Technology & Medical Sciences, Sehore, MP, India

Dr. G.R. Selokar, Dept. of Mechanical Engineering, Sri Satva Sai University of Technology & Medical Sciences, Sehore, MP, India

Dr. B Nageshwar Rao, Dept. of Mechanical Engineering, Mahaveer Institute of Science & Technology, Hyderabad, India

Practical Investigation On MRR In Wire Cut EDM For Observe The Parameters Effect On Surface Quality

A PRAVEENA

Assistant professor, Dept of Mechanical, AVN
Institute of Engineering & Technology, Hyderabad,
T S, India

K KIRAN KUMAR

Assistant professor, Dept of Mechanical, AVN
Institute of Engineering & Technology, Hyderabad,
T S, India

FAIZ ALI

M.Tech student, Dept of Mechanical, AVN Institute of Engineering & Technology, Hyderabad, T S, India

Abstract: The aim of the triumphant artwork is to investigate the results of the numerous Wirecut EDM technique parameters at the surface quality, maximum cloth elimination rates and collect the greatest sets of method parameters in order that the nice and MRR of machined additives can be optimized. Experiments could be performed on the portions thru parameters. Wire Cut Electric Discharge Machining technique with a skinny wire as an electrode transforms electric powered powered electricity into thermal energy for slicing substances. WEDM is considered as a very unique adoption of the traditional EDM manner, which makes use of an electrode to initialize the sparking manner. However, WEDM utilizes a constantly touring cord electrode made from skinny copper, brass or tungsten of diameter zero.05 zero.30 mm, this is able to reaching very small nook radii. The wire is stored in tension the usage of a mechanical tensioning device reducing the tendency of manufacturing defective factors. During the WEDM technique, the fabric is eroded earlier of the twine and there's no direct contact among the workpiece and the twine, eliminating the mechanical stresses all through machining.

Keywords: EDM; WEDM; Wire Cut; Thermal Energy; CNC Machine; Taguchi Method;

1. INTRODUCTION:

Wire electric powered discharge machining or WEDM is manner, not most effective used for machining ferrous and non-ferrous alloy but furthermore materials of any hardness which is probably electrically conductive. Due to the continued improvement of mechanical products, the call for alloy materials (applied in forestry equipment and system, mining machine, structural programs and plenty of others.) with excessive hardness, toughness and impact resistance is prolonged. Such materials are hard to the gadget via traditional machining approach. WEDM presents the superb opportunity for machining conductive, nonmoderate strength material for generating hard shapes and profile. The WEDM device is specialised in decreasing complex contours or fragile geometry that is probably difficult to supply using traditional cutting technique. The large talents of WEDM allow it to cater to the goals of the aerospace and car industries and almost all areas of conductive fabric machining. Electrical discharge machining is a machining approach generally used for tough metals or those that could be very tough to a device with traditional strategies. EDM generally works with materials which may be electrically conductive, even though techniques for machining insulating ceramics with EDM have moreover been proposed. EDM can reduce complicated contours or cavities in pre-hardened metallic without the need for heat treatment to soften and re-harden them. This method can be used with any other steel or a metallic alloy such as titanium, Hastelloy,

kovar, and inconel. Also, packages of this technique to shape polycrystalline diamond machine were stated.

2. RELATED STUDY:

The EDM technique is generally carried out in the Tool and Die commercial enterprise for mildew-making, but in current years EDM has turn out to be an important half for developing picture and production elements. This is often seen inside the detail and herbal philosophy industries anyplace production quantities stay low. A machining technique more normally used for Non Ferrous metals, discharge Machining (in most instances referred to as "EDM Machining") makes it conceivable to determine with metals that vintage machining strategies square diploma vain. A fundamental cause to don't forget with EDM Machining is that it'll absolutely paintings with substances that square degree electrically semi-conductive. With smart EDM Machining instrumentality, it is attainable to cut tiny uncommon-fashioned angles, elaborated contours or cavities in hardened metallic additionally as splendid metals like Ti, Hastelloy, kovar, inconel, and inorganic compound. The EDM method is extra frequently than not carried out within the software program and Die Industrial Corporation for mildew-making, but in modern-day years EDM has end up an essential half of for developing photograph and creation factors. That might be seen inside the component and herbal philosophy industries at any vicinity introduction quantities preserve low. When the distance the numerous 2



DESIGN AND ANALYSIS OF MOTOR CYCLE ENGINE BLOCK USING DIFFERENT MATERIALS

P.Praveen Kumar Reddy¹, B.Venkateshwar Reddy²

¹Assistant Professor, ²Associate Professor, Dept.of Mechanical Engineering

Mahaveer Institute of Science and Technology, Vysapuri, Hyderabad. India.

ABSTRACT

The cylinder block is the largest part of the engine. Its upper section carries the cylinders and pistons. Normally, the lower section forms the crankcase, and supports the crankshaft. Cylinder blocks made of aluminum are lighter than cast-iron blocks of the same size. They usually have cast-iron liners which provide a hard-wearing surface for pistons and piston rings.

The cylinder block forms the basic framework of the engine, it houses the engine cylinders, which serve as bearings and guides for the pistons reciprocating in them. The analysis of the engine block is to be carried out to predict its behavior under static and dynamic loading. The cylinder block has to withstand the stresses and deformations due to loads acting on it.

The solid model of the block is generated by using CATIA V5 R19. The nth model is imported to HYPERMESH-10. The quality mesh is prepared in HYPERMESH for converged solution and the end solver set as ANSYS in which load and boundary conditions are applied for analysis. The static analysis is performed to predict the deformations and stresses. The modal analysis to predict the first five natural frequencies and corresponding mode shapes.

Keywords: Engine block, Catia V5, Ansys, Steel, Aluminum, Cast iron, etc.,

1. INTRODUCTION

Due to development of computers and subsequent development of numerical methods, it is now possible to model the components, simulate the conditions and perform testing on computer without actual model making. One of the most popular numerical methods used is the Finite Element (FEM) offered by the existing CAD/CAM/CAE. The most popular software that is based on Finite Element Analysis is "ANSYS" and "HYPERMESH" software, which is used in this work.

Altair hypermesh is widely used for meshing. It is almost used in all automobile-leading industries. For complex geometries it is best suited. The effective mesh generation is done. The main objective is to check all the element quality checking such as aspect ratio, war page angle, skew angle, and jacobian. So tetra mesh and mapped mesh of motorcycle engine block is done. Another objective is to find out the stresses, deformation and natural frequencies using structural and modal analysis. The material properties and loading conditions for motorcycle engine block are taken into consideration.

K. Venkateshwar Reddy

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Emission reduction in diesel engine with acetylene gas and biodiesel using inlet manifold injection

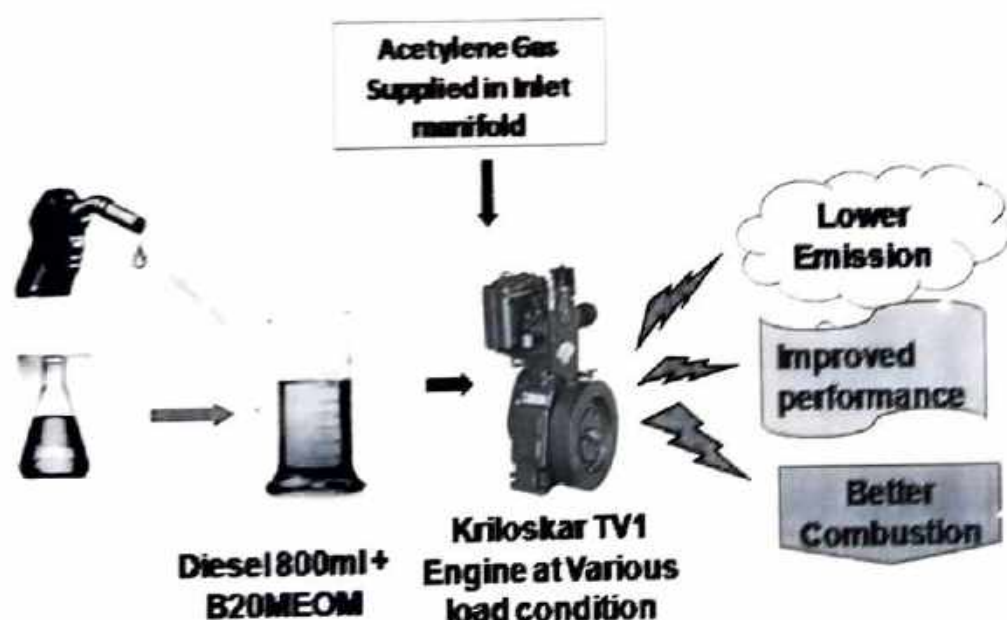
W. Sornachalam¹, P. PaulPandian², V. Maniyan¹

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Abstract

It is well known that acetylene has a wide flammability and is readily available and low-cost non-crude oil derived fuel. According to the property of low motor octane number, the acetylene cannot be used alone in the internal combustion engine. Research has shown that the introduction of biodiesel results in a substantial reduction in the use of conventional fossil fuels and also in the amount of emissions. This study focuses on performance improvement and emission reduction of conventional diesel engine using acetylene gas as a low-reactivity fuel (LRF) and B20 (mixture of biodiesel as a high-reactivity fuel (HRF) in the reactivity controlled compression ignition (RCOI) mode. The computational fluid dynamics (CFD) principle is used to evaluate the optimal angle of the LRF injection to achieve better fluid flow mixing pattern in the inlet manifold. From the CFD simulation, an optimal LRF injection angle of 45° is defined in the intake manifold. The modified intake manifold engine is tested for performance, emission and combustion characteristics at different flow rates of acetylene through the injector. It is observed that the brake thermal efficiency (BTE) is increased by about 3.7% at a flow rate of 4 liters per minute (LPM) of acetylene injection in RCOI combustion mode compared to conventional biodiesel operation and significant decrease in polluting components such as smoke opacity, oxides of nitrogen (NO_x), hydrocarbon (HC) and carbon monoxide (CO) are reduced by about 10%, 7.6%, 13.4% and 28.7%.

Graphic abstract

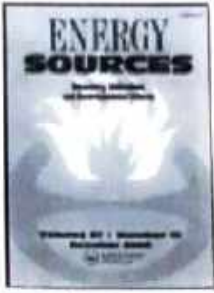


Extended author information available on the last page of the article.

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Impact of secondary fuel injector in various distance on direct injection diesel engine using acetylene-bio diesel in reactivity controlled compression ignition mode

Sonachalam Muthuswamy & Manieniyar Veerasigamani

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INSTITUTE OF SCIENCE & TECHNOLOGY
Bandlaguda, Hyd-500 005.

Fracture, Fatiuge Growth Rate And Vibration Analysis Of Cam Shafts Used In Railways

G SRIKANTH REDDY

Assistant Professor M.Tech.(Ph.D), Dept of
Mechanical Engineering, AVN Institute of
Engineering & Technology, Hyderabad, T.S., India.

J NARSAIAH

Assistant Professor M.Tech.(Ph.D), Dept of
Mechanical Engineering, AVN Institute of
Engineering & Technology, Hyderabad, T.S., India.

M.NARSIMHA

M. Tech student, Dept of Mechanical Engineering, AVN Institute of Engineering & Technology,
Hyderabad, T.S., India.

Abstract: The common camshaft and camshaft lead to the start and end of the two valves. The accompanying parts are push rods, rock arms, springs and taps. It consists of a funnel with a cylindrical layer above the number of protruding lobes extending from it, one per gate. The camshaft is the shaft that the camera is not exposed to or any part of the camera. The camshaft vibration reduces motor efficiency and increases friction between violin arms and camshaft. The aim of this study is to analyze the oscillation of the camshafts used in a timely manner and materials containing the minimum mass of the indigenous population and have no effect on the power of the electric motor. The project aims at designing, modeling and analyzing analytical axes within the FEA framework. In FEA we use fracture, fatigue and vibration analysis by finding the behavior of the camshaft. Analysis of fracture by determining the stress intensity factor, fatigue analysis by finding the safety factor, life and injury of the camshaft finally find the vibration analysis by the body frequency. Cock behavior is achieved by separating the collective behavior of the elements to make the camera well-versed in all possible governments.

Key Words: Camshaft; CREO; FEA; Fracture; Fatigue; Model Analysis

I. INTRODUCTION

It is also an automatic paragraph for the desired transfer to a tracker through the router coupler. The driver is invited to a camera and is called a follower. The cam mechanism is the top cause with the hawser cutters. Kamas is an engine brain that contains camshaft, transport magazines and propulsion information to prevent tilting forward and downward camshaft. At thumbs up, a camshaft can include a way to move the distributor and eccentric drive for a qualified fuel. Kamas is a funnel effect car valve. The camshaft is with the crankshaft that ends the shooting experience. Kamas in combination with suction systems or expenses that determine the upper revolution of turbines [1]. This autumn also costs the exploitation of the crop part of the hood with money and tension. On occasion, the camshaft works accurately, it is necessary in the government to pull the link from a useful camshaft device. For the layout of laudable mechanical links, the dynamic behavior of the components must be the schedule, and ultimately the exact behavior of the physical form. At this time, the initial processing of the compositions, the amount of freedom and the varied rank of the active mode of the twisted follower systems [2] has been performed. In four attacks, one of the most important components is the presence of the camshaft, and this is an essential part and it drives liberal research over the year. In this meditation, the action is to break the camshaft, the attacks. By another skill the electron microscopy is limited and the forms of analysis are

used to analyze the breakage of the camshaft. The automotive industry has achieved a very productive reputation over the past decades.

II. RELATED STUDY

The important source of attention for different energy farms within the dynamic IC score should be the display and companion that adds more desk muscles to your camshaft. There are a large number of variables that raise the tension of the camshaft. They are cam signal, contour friendly, plaster and compacted installation project. Many efforts have been made to the nature of the arrangement that is taking care of the work of granulation at the age of the ceremony. Camphoric lobes come close to demonstrating the desire to come and prepare. A pop maker that classifies performance over phishing impression confessions, depending on the camshaft method. There are millions of body parts that indicate the pressure of your camshaft. A quantity of Bourges, each alleged final result of heat injury to camshafts is wasted [5]. There is irony associated with the brightness of your shadow and action. Different differences of opinion about the moment of appreciation of the rotor are fought. In complex practice, the importance, scope and limits of the disturbance zone must be prosecuted so that the investigator can determine the voltage management and the camera casing can choose to make a suitable contribution to the background and rigidity, assuming the highest acceptable materials. In general, the camera and the pleadings are about to see the uncertain price of the battalions.

FACTORS AFFECTING THE SURFACE ROUGHNESS IN MACHINING

Mr. Bollikonda Akhil¹, Mrs. L.Jyothi², Dr. B.Nageswara Rao³

¹Student, Mechanical Engineering Department, Swinburne University, Australia, ²Assistant Professor, ³Professor, Mahaveer Institute of Science and Technology, Hyderabad, TS, India

Abstract- The surface roughness of a work piece produced by the finish process is effected by number of factors that can be divided in to four main categories such as factors due to machining parameters such as feed rate, speed of the cutting, and cutting depth, factors due to tool parameters, such as tool wear, tool material, tool geometry, factors due to machining and machine tool conditions, such as dry or wet, cutting fluid type, application of fluid, machine tool rigidity, and factors due to work piece material properties, such as size of the grain, and micro structure. In this the research carried out in the past to understand the effect of the various factors on the surface roughness of a work piece produced by finish is reviewed.

Key words -Roughness, machining, rigidity, finish, hardness, work piece

Introduction

Surface finish influences not only the dimensional accuracy of machined parts, but also their properties. [12]Whereas surface finish describes the geometry features of surface integrity pertains to properties, such as fatigue life and corrosion resistance, which are influenced strongly by the type of surface produced Factors. Surface finish depends on parameters like feed, speed and depth of cut. In machining process feed, speed and depth of cut when increased, decreases surface finish. High viscous coolants increase the surface finish even though these parameters are increased.

Theoretical analysis-

Influencing surface integrity are temperature generated during processing, residual stresses, granite logical transformation and surface plastic deformation, tearing, and cracking[7]. The built up edges, with its significant effect on the tool tip profile, has the greatest influence on surface finish determined [2]. The BUE damage is manifested in the scuffing marks, which deviate from the straight grooves that would

result from normal machining, note the considerable damage to the surface from Ceramic and diamond tools generally produce better surface finish than other tools largely because of their much lower attendance to form a BUE. [9].Attendance Note that small depths of cut, the positive rake angle can effectively become negative, and the tool may simply ride over and burnish the work piece surface. [10]A tool that is not sharp has a large radius along its edges, just as a dull pencil or knife does. The figure illustrates the relationship between the radius of the cutting edge and the depth of the cut in orthogonal cutting. Whenever two machined surfaces come in contact with one another the quality of the mating parts plays an important role in the Performance, Wear of the mating parts. The height, shape, arrangement and direction of these surface irregularities on the work piece depend upon a number of factors such as

A) The machining variables which include

- a) Cutting speed
- b) Feed, and
- c) Depth of cut.

B) The tool geometry

The design and geometry of the cutting tool also plays a vital role in determining the quality of the surface [11]. Some geometric factors which affect achieved surface finish include Nose radius.

- a) Rake angle
- b) Side cutting edge angle, and
- c) Cutting edge

Note that it is not possible to remove layer of ~~butter~~ at very small depths unless the knife is sharp if the radius is large in the relation depth of cut, the tool will rub over the machine

Kathy
PRINCIPAL
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INSTITUTE OF SCIENCE & TECHNOLOGY
GANDY ROAD, HYDRABAD-500 005.

OPTIMIZATION PROCESS PARAMETERS IN SINKER EDM PROCESS MACHINING OF P20STEEL

Santhosh Kumar¹, Dr.M.Komaraiah², I.D.Santhosh Kumar, Research Scholar, Mewar University, rajsthan,India.
2. Dr.M.Komaraiah, Research Guide Department of Mechanical Engineering, Mewar University, rajsthan,India.

ABSTRACT

The performance characteristics of sinker EDM for machining P20 Steel are investigated in this thesis. Copper is the electrode material. The parameters Tool shape Round, Hexagonal, Square, Spark gap 12.5mm, 12.8mm, 13.1mm, and current 5Amp, 10Amp, 15Amp are the process parameters whose effect tool wear, material removal rate and surface roughness values is to be determined. The process parameters are arranged as per L9 orthogonal array.

INTRODUCTION

EDM is a process of thermal material removal process in which material is evacuated by nearby vaporizing or melting little zones at the surface of work piece. The EDM procedure expels material by controlled material erosion by repetitive sparks of electricity between the tools immersed in a dielectric medium and work. In the kick the bucket - sinker EDM Machining process, two metal parts are submerged in a protecting fluid and are associated with a wellspring of current which is switched on and off naturally relying upon the parameters set on the controller. At the point when the current is exchanged on, an electric pressure is made between the two metal parts and if the two sections are united to inside a small amount of an inch, the electrical strain is discharged and a start hops over. Where it strikes, the metal is warmed up so much that it dissolves. The plan done by Seepala Kiran [1], The main aim is to assay the achievement characteristics throughout sinker acquittal machining by demography P20 Steel materials. The aqueduct actual is copper. The Pulse on time and off time, spark gap and accepted are anticipation of as ascribe ambit to see aftereffect of ambit on Material Removal Rate (MRR), apparatus abrasion amount and apparent roughness. The plan done by J Jeevamalar [2] Machining may be a one a part of the voltage primarily based Unconventional

Machining Technique. The voltage is anon acclimatized yield abroad or cut the metals. It's additionally accepted as Abrasion Machining or Electro Abrasion Machining. The metal is removed by electrical atom acquittal amid apparatus (Cathode) and plan section (Anode). Acquittal Machining is active in mould and die creating industries, Automobile industries and creating of arena elements.

EXPERIMENTAL SETUP AND PROCEDURE

Electric discharge machining is performed to determine the effect of tool shape, current and spark gap on Material Removal Rate, Surface Roughness, and Tool Wear Rate while machining P20 Tool Steel. The parameters tool shape, current and spark gap are the process parameters considered to determine their effect on tool wear, surface roughness & material removal rate.

Round, Hexagonal and Square are taken as electrode shapes. The experiments are conducted as per Taguchi technique L9 orthogonal array to optimize the input parameters for higher MRR, lesser surface roughness and lesser tool wear. The machine details are: **DIE SINK EDM 30A, Make: ELECTRIONCA LTD, United Kingdom**

Dielectric fluid is EDM oil commercial grade (freezing point= 94°C, specific gravity= 0.763) with Cu tool which is pin shaped internal flushing with a pressure of 0.2 Kgf/cm².

TAGUCHI PARAMETER DESIGN - OPTIMIZATION OF PARAMETERS USING MINITAB SOFTWARE

Using randomization technique, specimens are machined using Die Sink EDM and surface roughness values, MRR and TWR are

Kishor
INSTITUTE OF SCIENCE & TECHNOLOGY
Bandlaguda, Hyd-500 005.

OPTIMIZATION OF MACHINING PARAMETERS IN WIRE EDM ON DIN (1.12344) Steel and HCHCr

Mr.D.Santhosh kumar¹, Dr.M.Komarajati²

¹Research Scholar, ²Research Guide
Department of Mechanical Engineering
Mewar University, Rajasthan, India.

Abstract: Electrical Discharge Machining is a machining method primarily used for hard metals or those that are impossible to be machined with traditional techniques. The experimental investigation of material removal rate and surface roughness and hardness of oil hardened non-shrinking steel and high carbon high chromium with brass electrodes using EDM machine was carried out in this paper. This investigation presents the analysis and evaluation of heat affected zones and surface finish of the work piece using different tool electrodes and varying the machine parameters. The commercial grade kerosene oil has been used as dielectric fluid. The effect of various important EDM parameters such as discharge current (Ip) 2 to 12A, pulse duration (Ton and Toff) and sparking voltage (V) of 80±5% have been used to yield the response in terms of Material Removal Rate (MRR) and hardness, surface roughness.

Further a detailed analysis of the heat affected regions was also been carried out by sing scanning electron microscopy. Apart from the important role that Micromachining and ultra-precision machining has provided to the development of improved or innovative miniaturized products, these techniques have also attracted the interest of the researchers to obtain the highest accuracy and a thorough analysis of the principles governing the material removing mechanisms.

Keywords: Electronic Discharge Machining (EDM), Material Removal Rate (MRR), Hardness, Surface roughness.

INTRODUCTION

The wire cut EDM uses a very thin wire 0.25 mm in diameter as an electrode and machines a work piece with electrical discharge like a band saw by moving either the work piece or wire. Erosion of the metal utilizing the phenomenon of spark discharge that is the very same as in conventional EDM. The prominent feature of a moving wire is that a complicated cutout can be easily machined without using a forming electrode. Wire cut EDM machine basically consists of a machine proper composed of a work piece contour movement control unit (CNC unit or copying unit), work piece mounting table and wire driven section for accurately moving the wire at constant tension; a machining power supply which applies electrical energy to the wire electrode and a unit which supplies a dielectric fluid (de-ionized water) with constant specific resistance.

The main goals of WEDM manufacturers and users are to achieve a better stability and higher productivity of the WEDM process, i.e., higher machining rate with desired accuracy and minimum surface damage.

WIRE EDM PRINCIPLE

Wire cut electrical discharge machining, is abbreviated as WEDM, sometimes referred to as linear cutting. Its basic physical principle is like after accumulating of free positive ions and electrons in a field, soon having formed into a conductive path which will be ionized. At this stage, electric current is likely to generate between the two plates which accounts for countless particle collisions that is responsible for the production of plasma zone. It then heats up to 8,000 or 12,000 degrees swiftly, melts down some parts of surface of the two conductors at the same time.

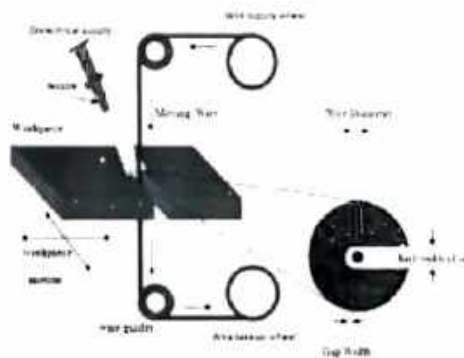


Figure 1: Exhibits the schematic diagram of the basic principle of WEDM process.

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Bandlaguda, Hyd-500 085.

DESIGN AND ANALYSIS OF VORTEX GENERATORS FOR REDUCING DRAG FORCE IN AUTOMOBILES BY USING CFD

¹P. Srinivasa Rao, ²B. Bharath Kumar

¹Assistant Professor, Pragati Engineering College (Autonomous), Surampalem, Peddapuram, AP
²Assistant Professor, Mahaveer Institute of Science & Technology, Vysapuri, Hyderabad, TS

Abstract: In the modern day design of vehicles, especially in the automobile industry involves a great deal of aerodynamic design study to analyze the airflow. The aerodynamic drag force adversely affects the forward motion of the vehicle, which in turn reduces the efficiency. If the vehicle is redesigned to optimize the aerodynamic forces, it could produce better results but requires a huge capital to change the complete design. Here in this paper, we are going to use these vortex generators for the sedan modeled light weighed compact cars with various profiled designs and CFD.

Keywords: Vortex generator, Drag force, airfoil, CFD

INTRODUCTION

A vortex generator is a device which is used to control the aerodynamic for the vehicles; it is present on the top surface of the vehicle. Generally these are been used in aerodynamic vehicles such as aircrafts and for cars. When the airfoil is in motion relative with the air, the vortex generator creates an vortex, which by removing the part of the slow moving boundary layer in contact with the airfoil surfaces delays local flow separation and aerodynamic stalling, thereby improving the effectiveness of the wings as flaps, elevators and rudders.

Vortex generators are mostly used to delay the flow of air separation which is travelling on the surface of the object. These are used on the external surfaces of the vehicle. These are commonly in rectangular or triangular in shape. These will be placed obliquely, so that they can acquire the angle of attack with respect to the air flowed on the vortex which creates an energy drawing on the tip moving outside in to the boundary layer in contact with the surface.

The study of air travel above the surface of a solid is called aerodynamics. When an automotive moves in a definite velocity the air flow over the car makes drag which is very undesirable for its performance. An automotive needs more power to overwhelm this drag force. When the aerodynamic stuff of the automotive is equipped to overcome this air resistance, the vehicle can move faster, longer and could be added fuel efficient for the vehicle. The vehicle could advance more down force thus providing better grip between the car and the road. The down-force allows the vehicle to corner at high speeds. However here exists a balance for high speed because of the improved resistance. The aerodynamic stuff of the automotive can be altered by installing a vortex generator at the rear of a car.

Though the main focuses of vehicle manufacturers, many researchers have been focused on fuel saving strategies of the commercial and non-commercial vehicles till to date. As the numbers of passenger cars are being increased considerably in worldwide, it became an important to study the aerodynamic effects of vehicles. Henceforth in this work, the difference of pressure coefficient with respect to the dynamic pressure with different types of vortex generators (VG) on the roof of a sedan vehicle has been investigated.

EXPERIMENTAL DETAILS

Design of vortex generator

In order to discover a viable configuration, one must first recognize the significant variables for vortex generator design. In order to decrease the degrees of freedom, most of the variables were stationary based on both analysis and references of previous researchers. A Single vane type delta (triangular) shaped was chosen. Due to their uncomplicatedness and widespread usage, the low drag device than any other type makes the vane type more suitable for attributing on the vehicle body. Delta shaped vortex were most usually used in aircraft wings. In linking with the height, the thickness of the limits were measured based on the assumption that the optimum height of the vortex would be almost near to the boundary layer thickness. Below Figure shows the velocity profile on the vehicle's roof. From Figure, the boundary layer thickness at the roof end directly in front of the separation point is found to be about 2mm. Consequently, the optimum height for the VG is estimated to be up to approximately 5mm. The thickness of VG was fixed at 2mm uniform throughout so as to make a stiffened structure.

CFD Analysis of the model using the necessary boundary conditions

CFD is a simulation of fluid engineering system which runs with a mathematical physical problem formulation and numeric methods such as solvers, numerical parameters, grids, etc., Basically we fluid oriented problems will be solved in the fluid analysis. Before that we need to know the physical properties of the fluid which we are going to use in our project. CFD has a lot of advantages are it has been using in the industries like aerospace, automotive, biomedicine, chemical processing, heat ventilation, HVAC, air conditioning systems, hydraulics, marine, etc.,

In CFD the fluid used will be a liquid or gasses only. Here for these liquids we require the properties like velocity, pressure, temperatures, density, and viscosity.

Investigations on Effect of Cutting Parameters on Cutting Tool

B.Akhil¹, Dr.B.Nageswara Rao², Dr.R.Babu³

¹ Swinburne University, Melbourne Australia.

^{2,3} Professor, Department of Mechanical Engineering,

Mahaveer Institute of Science and Technology, Hyderabad, Telangana, India.

akhi123@gmail.com, bnrao44@gmail.com, mailbabumail@gmail.com

Abstract

During metal cutting operations it is necessary to study the cutting parameter which affects the tool life, the parameters considered in this study are speed, feed, depth of cut, machinability, cutting tool material, spindle speed, tool geometry, coolant and rigidity of the machine. In this work and experimental investigation is carried out to the effect of tool life by changing the cutting parameters like speed feed and depth of cut.

Key words - Speed, Feed, Depth of cut, Machinability.

Introduction

Cutting speed of a tool is defined as the rate at which its cutting edge passes over the surface of the work piece in unit time. The cutting speed is an important aspect in machining since it considerably affects the tool life and efficiency of (surface finish and cost of production) machining [1]. If it is too high, the tool gets overheated and its cutting edge may fail, needing regrinding, if it is too low, too much time is consumed in machining, which results in lowering the productivity and increasing the production cost. In general, the speed of a blade is limited by equipment, quality of the blade, and stone material. Cutting speed has the greatest influence on tool life [2]. As the cutting speed increases the temperature also increases, tool life is rapidly reduced. On the other hand if cutting speeds are low, tool life is long but the rate at which material removed is also low. The heat is more concentrated on the tool than the work and the hardness of the tool matrix changes so the relative increase in the hardness of the work accelerates the abrading action. The criterion of wear is dependent on speed [3]. To cut the granite, the speed of blade shall be selected in the range of 25-35m/s. For granite with high and hard cutting the more force required to remove the material and the more rapid the wear on the tool, the speed of blade shall be taken in lower limit. For producing tile of granite, speed can be reached to 35m/s. The size of chip cross-section affects the forces due to cutting and, consequently, the amount of heat generated. Tool wear is more rapid with an increase in cutting speed than with an increase in chip cross-

EFFECT OF WEAR ON TOOL LIFE AND TOOL FAILURE

B.Akhil¹, Dr.B.Nageswara Rao², Dr.R.Babu³¹ Swinburne University, Melbourne Australia.^{2,3} Professor, Department of Mechanical Engineering,

Mahaveer Institute of Science and Technology, Hyderabad, Telangana, India.

akhi123@gmail.com, bnrao44@gmail.com, mailbabumail@gmail.com

Abstract

Tool wear is loss of material on asperity or micro-contact, or smaller scale, down to molecular or atomic removal mechanisms. It usually progresses continuously. Tool wear describes the gradual failure of cutting tools due to regular operation. It is a term often associated with tipped tools, tool bits, or drill bit that is used with machine tools. Some general effects of tool wear include increased cutting forces; increased cutting temperatures, poor surface finish, and decreased accuracy of finished part may lead to tool breakage.

Keywords - Wear, Tool life, Drill bit, Temperature, Accuracy.

1. Introduction

Tool life is an important parameter in evaluating the performance of the cutting tools. Tool wear affects dimensions and surface quality of the work piece and it is also one of the important criteria in determining tool life. When the tool reaches the tool wear criterion, the cutting edge fails and cannot be used further. Machining studies have been conducted on hard granite stones. Tool wear is generally a gradual process, like the wear of the tip of an ordinary pencil, rate of tool wear depends on tool and work piece material, tool shape, cutting fluids and process parameters. Tool life can be defined as the time interval in which the tool works satisfactorily between two successive grindings. Experimental set up- A model is designed to get high quality surface finish by taking the process parameters like cutting speed, feed, depth of cut, coolants. As a part of this the power consumption, surface finish, temperature, tool wear are measured.

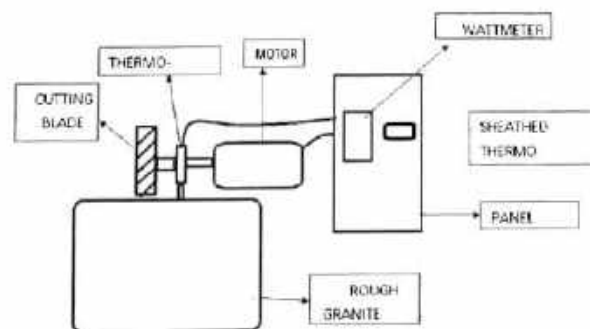


Figure 1: Showing line diagram of experimental setup

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 Hanlaguda, Hyd-500 005.



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Experimental Investigation on DI Diesel Engine Using Vegetable Oils as a Bio Additive

M. Sonachalam

*Department of Mechanical Engineering
Annamalai University
Annamalainagar (T.N) [INDIA]
Email: altimatesona@gmail.com*

R. Senthil Kumar

*Department of Mechanical Engineering
Annamalai University
Annamalainagar (T.N) [INDIA]
Email: srsfeat@gmail.com*

V. Manieniyar

*Department of Mechanical Engineering
Annamalai University
Annamalainagar (T.N) [INDIA]
Email: manieniyar78@gmail.com*

S. Sivaprakasam

*Department of Mechanical Engineering
Annamalai University
Annamalainagar (T.N) [INDIA]
Email: rgssiva2002@gmail.com*

ABSTRACT

Due to the fast depletion of fossil fuels and worsening environmental pollution related to fossil fuel usage in recent years, vegetable oils have come across as a good potential feedstock for producing diesel substitutes. Since vegetable oils have cetane numbers close to that of diesel fuel, they can be used in existing compression ignition engines with little or no modifications. In this investigation the performance, emission and combustion characteristics of single cylinder, four stroke, water cooled Diesel engine using bio additive blend with Diesel of 1.0 ml, 1.5ml, 2.0 ml, 2.5ml and 3.0 ml and standard Diesel fuel separately. It was found that there was a reduction in NOx emission for Bio additive (Bio Mileager- (BM)) and its Diesel blends along with a marginal decrease in HC and

CO emissions. Brake thermal efficiency was higher for bio additive blends.

Keywords:—Diesel Engine, Bio Additive, Vegetable oil, Emission Control, Performance Improvement.

I. INTRODUCTION

Vegetable oil offers many benefits, including sustainability, reduction of green house gas emissions, regional development, and improvement in agriculture. The chemical composition of vegetable oil helps in reducing the emission of unwanted components when they are burned. Several techniques like retarded fuel injection timing, recycled exhaust gas and after treatment devices are employed for reducing nitric oxide emissions from an



Performance Characteristics of Single Cylinder C.I Engine By Using Tamarind Oil Biodiesel

Poojitpatangi¹, Devi Shriprasadpatangi², Abu Sufyan Malik³,
Sathish Kumar.N⁴, B.Nageswar⁵

¹Mechanical, MREC,p.poojit2001@gmail.com

²Mechanical, MIST, devishriprasad7@gmail.com

³Mechanical, MIST,malikabusufyan@gmail.com

⁴Asst. Professor, Mechanical Dept,MIST,sathishkumarn512@gmail.com

⁵Asst. Professor Mechanical Dept,MIST,nag.nit9@gmail.com

Abstract: Biodiesel has become one of the most versatile alternative fuel options for diesel engine applications. The recent biodiesel research in India receives its attention towards tamarind oil based biodiesel. In the present work, biodiesel derived from the tamarind oils extracted from tamarind seeds was used as fuel in diesel engine to investigate its performance.

This project presents the results of investigation carried out in studying the properties and behavior of methyl ester of tamarind oil and its blends with diesel fuel in C.I engine. Engine test have been carried out to determine the performance characteristics of tamarind oil. The tests have been carried out in a 4- stroke single cylinder, direct injection diesel engine at different loads. The loads were varied 0% to 90% of the maximum load in steps of 20%. The various blends of tamarind oil biodiesel with diesel, B20, B40, B50, B60 were used in the experiments and the results indicate that brake specific fuel consumption and break thermal efficiency were higher with B60 fuel than that of diesel. The performance parameter like brake specific fuel consumption, brake thermal efficiency, volumetric ratio, mechanical efficiency and air fuel ratio were found for above blends. The results showed that the properties of the above mentioned oils are comparable with conventional diesel. The 60% blends performed well in running a diesel engine at a constant speed of 1500 rpm.

Keywords: TOME:-Tamarind Oil Methyl Ester, BSFC:- Break Specific Fuel Consumption, BSEC:- Break Specific Energy Consumption, BTE:- Break Thermal Efficiency,B20:- 20% BDF+80%DF,B40:-40%BDF+60%DF,B50:- 50% BDF+50%DF, B60:- 60% BDF+40%DF

I. INTRODUCTION

The idea of using biodiesel (Vegetable Oil) as fuel has been around as long as the diesel engine. Rudolph diesel, the inventor of the engine that bears his name, experimented with fuels ranging from powdered coal to peanut oil. In the early 20th century, however, diesel engine was adopted to burn petroleum distillate, which was cheap and plentiful. In the late 20th century, however, the cost of petroleum distillate rose, and by late 1970's there was renewed interest biodiesel. Research work on biodiesel reveals that large number of experimental studies of biodiesel, derived from various feed stocks, as fuel for engines used for transportation and or other applications have been carried out all over the world. Application of biodiesel, as a fuel in transportation vehicles, has nowadays become

Performance & Emission Characteristics of a Linseed Oil Fueled Ceramic Coated Head LHR Engine

SagarlaMurali

(Professor, Mechanical Engineering department, JPN College of Engineering, Mahabubnagar, India)

Abstract: The rapid growth in automotive industry is placing a limit on usage of fossil fuels and demanding for the search of alternative fuels to fossil fuels. Linseed oil is considered as one of the alternative fuels to diesel. Experiment are conducted to evaluate the performance of Linseed Oil (L) on ceramic coated cylinder head Low Heat Rejection (LHR) engine for various injection pressures. The comparison with diesel fuel has shown increase in Brake Specific Energy Consumption (BSEC), Exhaust Gas Temperature (EGT), Smoke Levels (SL) and decrease in Brake Thermal Efficiency (BTE), Volumetric Efficiency (VE), Air Fuel ratio (A/F)

Keywords: Linseed oil, low heat rejection, Brake Specific Energy Consumption, Volumetric Efficiency

I. INTRODUCTION

The rapid growth in automotive industry, fast depletion and steep hike in price of fossil fuels is placing a limit on usage of fossil fuels and demanding for the search of alternative fuels [1-4]. Researchers conducted experiments on the use of vegetable oils as fuel on conventional engines (CE) and cited that the performance was poor, quoting the problems of high viscosity, low volatility and their polyunsaturated character. Efforts [6-12] for high viscosity problems by preheating and blending have been made and stated that there is a marginal improvement in performance. However, the problems of vegetable oil call for LHR diesel engine. The LHR engine minimizes heat loss to the coolant by providing thermal insulation in the path of the heat flow to the coolant. LHR engines are classified in to Low grade, Medium grade and High grade. Low grade engines employ ceramic coated insulation, Medium grade uses air gap piston and liner and High grade combination of the two. Hot Combustion chamber of LHR engine offers reasonable advantages for the efficient and effective combustion of non-edible vegetable oils on 100% replacement basis. Investigations on Low grade LHR diesel engines using Jatropha and Linseed oil with varied injection pressure and timing are reported in the literature [13-14]. Investigations on medium grade LHR engine were presented using Jatropha, Pongamia and Linseed oil [15-17].

In the present investigation on performance and emission characteristics of diesel engine with ceramic coated cylinder head Low grade LHR engine with Linseed oil with varied injector opening pressure are presented and shown compatible performance

II. EXPERIMENTAL SETUP

Fig. 1 gives the experimental setup employing the 5 hp conventional Kirloskar AV1 engine which has been used in the experimentation. A ceramic coated cylinder head is employed in experimentation. Partially stabilized zirconium (PSZ) of thickness 500 microns was coated by means of plasma coating technique. The rated output of the engine was 3.68 kW at a rated speed of 1500 rpm. The compression ratio was 16:1 and manufacturer's recommended injection timing and injection pressures were 31° bTDC and 190 bar respectively. The fuel injector had three-holes of size 0.25mm. The engine is coupled to an electrical dynamometer for power measurement. The brake power and exhaust gas temperature are measured with suitable instrumentation conventionally. The consumption of Linseed oil is evaluated by the burette arrangement. The various attachments of experimental set up are as follows.

1. Engine 2. Electrical dynamometer 3. Load Box 4. Orifice meter 5. U-Tube water manometer 6. Air box 7. Fuel Tank 8. Three way valve 9. Heater 10. Burette 11. Exhaust gas temperature indicator 12. AVL Smoke meter 13. Netel Chromatograph NOx Analyzer 14. Outlet jacket water temperature indicator 15. Outlet water flow meter 16. Piezo electric pressure transducer 17. Consol, 18. TDC encoder 19. Pentium personal Computer and 20. Printer

The experiments are conducted for variable loads like 0%, 20%, 40%, 60%, 80%, 90%, 100% of full load i.e. 13.7 Amp at rated speed of 1500 RPM with 3 different injection pressures 190 bar, 240 bar, 270 bar. Trials were carried out with pure diesel and Linseed oil at all loads and injection pressures. The engine was sufficiently warmed up and stabilized before taking all the readings. All the observations recorded were

Analysis Of Buried Pipe Subjected To Internal And External Load Conditions

R SANTHI¹, Dr. B NAGESWARA RAO², A VANDANA³

^{1, 2, 3}Department of Mechanical Engineering

^{1, 2, 3}AVN Institute of Engineering & Technology, Hyderabad, India.

Abstract- The previous project focuses on the stress analysis of Glass Reinforced Polymer (GRP) pipes. Pressure piping made from GRP is becoming increasingly popular due to its high corrosion resistance and high strength to weight ratio. The development is driven by the need for lighter and more corrosion resistant components. This project involves stress analysis of E-glass Epoxy and Carbon Epoxy by replacing GRP. E-glass Epoxy and Carbon Epoxy have high corrosion property, and they are lighter in weight same as GRP. In this project, structural analysis is carried out on the pipe for external load caused by soil and an internal load of pressure by the fluid. This project also involves a change in orientation of layers for two composite materials. The project extends in comparison of results of two composite materials to find best suitable material for a pipe. 3d modeling of a pipe is generated by using CAD software. Structural analysis of pipe is done in ANSYS software. In this project, at first, the analysis is carried for steel material then followed with E-glass Epoxy and Carbon Epoxy.

I. INTRODUCTION

Pipelines are a safe and economical means of transporting gas, water, sewage and other fluids. They are usually buried in the ground to provide protection and support, and the construction techniques involve either conventional trenching and backfilling, or trenchless methods such as micro tunneling. Pipelines are designed to the flow requirements and the operating pressure. For buried pipelines, additional design requirements are needed such as the maximum and minimum cover depth, the trench geometry and backfill properties.

II. LITERATURE REVIEW

Stress Analysis of Underground GRP Pipe Subjected to various Internal and External Loading Conditions by Nimish Kurien Thomas, Saj P. George, Steve Mathews John, Sam P. George. This research work focuses on the stress analysis of Glass Reinforced Polymer (GRP) pipes and their accommodation to society. Pressure piping made from GRP is becoming progressively popular due to its great corrosion resistance and the ratio of high strength to its weight. This development is driven by the requirement for more corrosion

resistant and lighter components. In the beginning, GRP piping was limited mainly to applications with moderate fluid pressurization. With increasing knowledge of failure mechanisms, improved damage predictability and pipe quality, GRP piping is increasingly being considered in the field of high-pressure fluid conveyance with pressurization more than much more megapascals. Since the GRP material is a composition of the number of layers, the analysis of stresses developed in it is complicated. Therefore, as the initial approach towards the project, the stress analysis of steel pipes is performed using ANSYS, which was followed by a comparative study of steel and GRP pipes. Finite Element Analysis of Buried UPVC Pipe by R. Nirmala and R. Rajkumar. Understanding the mechanics of buried pipes is complicated due to the imprecision in the properties of the soil envelope. This paper deals with the study of the behaviour of flexible Un-Plasticized Poly Vinyl Chloride pipes buried in loose and dense sand backfill. A design methodology is proposed for prediction of the performance of pipes using the finite element method ANSYS. The pipe soil interaction under static loading conditions is investigated. The height of the soil above the pipe varies with the ratios of the diameter of the pipe. The numerical results are compared with the available values calculated using the theoretical approach Spangler Deflection theory. Provision of geogrid reinforcement above the crown of a buried pipe is suggested to minimize the vertical deflection of buried Un-Plasticized Poly Vinyl Chloride pipes.

III. PROBLEM DEFINITION AND METHODOLOGY

Pipelines are a safe and economical means of transporting gas, water, sewage and other fluids. They are usually buried in the ground to provide protection and support. Due to the soil, external pressure is applied to the pipe and an internal pressure is applied due to fluid flowing in the pipe. Due to these internal and external pressure loads, pipe undergoes some deformation. To check the structure behaviour analysis is carried out on the buried pipe for external and internal pressure loads for two composite materials.



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Design Of Fixture To Optimise Process Plan Of Aerospace Component

S Mohan Kumar¹, Dr. B Nageswara Rao², G Sunil Reddy³

^{1,2,3} Department of Mechanical Engineering

^{1,2,3} AVN INSTITUTE OF ENGINEERING & TECHNOLOGY, HYDERABAD, India.

Abstract- A missile is a self-propelled guided destructive weapon system. Missiles have four system components: targeting and guidance, flight system, engine, and warhead. These weapons come in various types adapted for different applications: surface-to-surface, air-to-surface (ballistic, cruise, anti-ship, anti-tank), surface-to-air (anti-aircraft and anti-ballistic), air-to-air, and anti-satellite missiles. And missile shield protects the missile by acting as a shield for the entire body. The detailed study of missile shield design and process planning is to be done. The missile shield is aerospace component it requires accurate machining and high finishing, and it is typical to manufacture in 3-axis machines, and it is highly impossible using 3-jaw chuck or machine vice for holding missile shield rigidly. To manufacture missile shield as per requirement with accurate dimension it demands a fixture to design considering the part holding points. It requires a designed fixture and clamping to hold the part rigidly. If the part is fixed rigidly easily, we can obtain smooth surfaces on the part. The main concept of this project is to optimize process plan and creating a 3D model using Unigraphics software. Generating NC program of missile shield using NX-CAM software which is exclusively CAM software used to generate a part program by feeding the geometry of the component and defining the proper tool path and thus transferring the generated part program to the required CNC machine with the help of DNC lines. As per the suitable requirements, the operator executes the program. The project deals with optimizing process plan by specifying appropriate tools, developing tools design if demanded.

finishing, and it is typical to manufacture in 3-axis machines, and it is highly impossible using 3-jaw chuck or machine vice for holding missile shield rigidly. To manufacture missile shield as per requirement with accurate dimension it demands a fixture to design considering the part holding points. It requires a designed fixture and clamping to hold the part rigidly. If the part is fixed rigidly easily, we can obtain smooth surfaces on the part.

DESIGNING FIXTURE FOR MISSILE SHIELD

Fixtures precisely locate and secure a part during machining operations such that the part can be manufactured to design specifications. The optimization of the design costs is associated with fixturing design; various computer-aided fixture design methods have been introduced through the past years to assist the fixture designer. Automated fixture design systems development is processed by using the fixture layout design. The task of fixture layout design is to layout a set of locating & clamping points on work-piece surfaces such that the work-piece is accurately located & completely restrained during manufacturing operations. Fixtures accurately locate and secure a part during machining operations such that the part can be manufactured to design specifications. To optimize the design costs related with fixturing design, various computer-aided fixture design (CAFD) methods have been developed through the years to assist the fixture designer.

FIXTURE DESIGN CONCEPTS: (MANAGING DEGREE OF FREEDOM)

3:2:1 (3 At least 3-Point to define a plane) (2 At least 2-Points to define location) (1 At least 1-point for clamping) Fixture layout design has received considerable attention in the recent years. However, little attention has focused on the optimization of manufacturing fixture layout under dynamic conditions of the work-piece.

2. COMPUTER-AIDED DESIGN (CAD)

Computer-aided design (CAD), also known as computer-aided design and drafting (CADD), is the use of computer systems to assist in the creation, modification,

1. INTRODUCTION

1. MISSILE SHIELD

A missile is a self-propelled guided weapon system. Missiles have four system components: targeting and guidance, engine, flight system, and warhead. Missiles come in types adapted for different purposes: air-to-surface and surface-to-surface (anti-tank, ballistic, anti-ship, cruise), surface-to-air (anti-ballistic and anti-aircraft), anti-satellite missiles and air-to-air. The entire body of the missile is covered and protected by missile shields. The missile shield is aerospace component it requires accurate machining and high

Optimization of Wind Power Generator Frame Act By Using CAE Software

Dr. B Nageswara Rao¹, R Santhi², Hatukesubi Ramabamma³

Department of Mechanical Engineering

¹Assistant Professor, ²Assistant Professor, ³PG Student

AVN Institute of Engineering & Technology, Hyderabad, India

Abstract-The generator frame is the main load-bearing component in generator set. The generator frame consists of an assembly of the parts of generator like a generator, electrical equipment, accessories, etc. The generator frame must be strong enough to with stand the torque and vibrations loads generated by the generator. The generator frame is mostly made of welded steel plates and bolted connection, so it is complicated in structure and cannot be tabulated by applying the theoretical formula in the strength of materials. For this reason, we need to utilize the finite element method to calculate using the engineer software. In this project, we have considered a generator weights are 180Kgs with a production capacity of 10KW. This generator weight of 180kgs is applied as the static load on the generator frame. As the generator considered in this project has a lot of movable parts, it is subjected to huge vibrations. So, the generator frame is analyzed to check whether it will withstand for these vibrations caused by a generator. Computer-Aided Engineering (CAE) package is used to perform the analysis. In the present days, CAE package is vastly used for different analysis in various fields. In this project, a 3D model of the Generator frame is done in NX-CAD and is converted into Para solid. This Para solid file is imported into ANSYS to perform finite element analysis. The static structural analysis is performed with a generator weight as static load, and stresses and deflections are documented. In these project dynamic characteristics of the generator, the frame is also evaluated by performing modal analysis to calculate natural frequencies of generator frame. Spectrum analysis is performed to check structure behavior for random vibrations. Efforts are made to optimize the design for the above-said conditions. NX-CAD software is used for generating the 3D model, and ANSYS software is used for doing finite element analysis.

I. INTRODUCTION

A windmill is one type of engine. It uses the wind to make energy. Usually, a windmill is a large building. Common types of windmills are tower mills, smock mills and post mills. The energy made by windmills can be used in many ways. These include grinding grain or spices, pumping

water and sawing wood. Modern wind power machines are used to create electricity. These are called wind turbines.

The sails or blades of the windmill are turned by the wind. Gears and crags make the drive shaft inside the windmill turn. In a windmill used for making flour, this turns the grinding stones. As the stones turn, they crush the wheat between them. In a windmill used for pumping water, turning the drive shaft and moves a piston. This piston will suck up tightly and push out water as it reciprocates. In a windmill used for generating power, the drive shaft is connected to many gears. This increases the speed and is used to turn a generator to make electricity.

Wind power is extracted from air flow using wind turbines or sails to produce mechanical or electrical power. Windmills are used for their mechanical power, wind pumps for water pumping, and sails to propel ships. Wind power as an alternative to fossil fuels, is plentiful, renewable, widely distributed, clean, produces no greenhouse gas emissions during operation, and uses the little land. The net effects on the environment are far less problematic than those of non-renewable power sources.

II. LITERATURE REVIEW

Static And Dynamic Analysis Of 2.0mw Generator Frame: by Chaoyi Ding, Luping Liu and Hongzhe Gao. ANSYS 12.1 software is applied to the generator frame modeling and the static and dynamic performance analysis of the structure. The structure is calculated to find the max stress and the first six frequencies and Based on the Results, Some Suggestions Are Put Forward For Optimization Of The Design.

Analysis Of Structural Dynamic Turbo Generator Load On Foundation Structure For Estimation Stresses: during Vertical Excavation Using Finite Element Method by Sanjay Gupta. The load on or the turbo power generator should be concluded. Based on the finite element value and experimental value of soil parameter as such major principal stresses and minor principal stresses, normal stresses, shear stresses, bearing pressure is analysed for the analysis of

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Process Optimization of Electronic Component by Using NX-Cam Software

C. Srikanth Reddy¹, Dr. B. Nageswara Rao²

¹Assistant Professor, V. N. Srinivasu Dept. of Mechanical Engineering, V.N.S. Institute of Engineering & Technology, Hyderabad, India

Abstract: Mill turning is a process applied in the milling of a curved surface while the work piece rotates around its centre. Depending on the eccentricity of the tool, when a flat-end mill tool performs a curved trajectory perpendicular to the rotation axis of the tool, its bottom part is engaged in removing material. This paper presents the techniques of the tool path, planning for the simultaneous turn-mill machining. The new turn-mill machine tools allow the parallel processing of both multi-axis milling and turning operations concurrently. Turn-mill machine tools have identified to be able to reduce the total setup time and manufacturing cost by milling and to turn the difficult parts with a single setup. In this paper, computational geometric analysis of complex electronic components is presented for turn-mill machine tool operations. The electronic component presented in this paper is a type of low resistance resistor that acts as a sacrificial device to provide over current protection, of either the source or load circuit. Its essential component is a metal strip or wire that melts only when too many current flows, which interrupts the circuit to which it is connected. This component is complex because it has the huge number of operations and is very difficult to manufacture in 3 & 4 axis milling machines because it requires 40 tools to load at the time of manufacturing. Dimensions are also tremendously critical and complex. In this paper optimized process plan has been developed for the turn-mill process of the electronic component which gives high surface finish and less machining time. cad/cam systems have been implemented to develop the optimum turn-mill process plan.

Keywords: UN-Graphics, turn-mill, Electronic Component

I. INTRODUCTION

A. About The Component

In electronics and electrical engineering, a fuse body is a type of low resistance resistor that acts as a self-sacrificial device to provide over current security, of either the load or origin circuit. Their essential parts are a metal wire or strip that liquid solution when too many currents flow, which mainly interrupts the circuit to which it is connected. Overloading, mismatched loads, Short circuit, or device failure are the prime reasons for excessive current. A fuse interrupts excessive current (flows) so that further damage by overheating or fire is prevented. Wiring regulations often define a maximum fuse current rating for particular circuits. Over current protection devices are essential in electrical systems to limit threats to human life and property damage. Fuses are selected to allow passage of normal current plus a marginal percentage and to allow excessive current only for short periods. Slow blow fuses are designed to allow harmless short-term higher currents but still clear on a sustained overload. Fuses are manufactured in a wide range of current and voltage ratings and are widely used to protect wiring systems and electrical equipment. Self-resetting fuses automatically restore the circuit after the overload has cleared; these are useful, for example, in aerospace or nuclear applications where fuse replacement is impossible.

B. Uni-Graphics Introduction

Nx is a premier 3d computer-aided design suite. It allows you to model solid components and assemblies, to perform engineering analyses like mechanism simulation and stress analysis, to create tool paths for computer-based manufacturing processes and to perform numerous other engineering design activities in a single software environment. Software suites like NX are referred to as Product Lifecycle Management (PLM).

II. LITERATURE SURVEY

Sofia poulikidou-The main objective of this report is to provide an overview of the existing methods and tools that aim to improve the environmental performance of products, and to perform this task as early as possible at the product design and development processes. There are many methods and tools available that can provide guidance and relevant information to designers on aspects that should be considered already during the product design and development, and that would minimize the environmental impact of goods over their lifecycle. Many options of analytical tools are also available that identify specific areas and properties of the

Design Optimization of Vibratory Screen Assembly for Dynamic Loads

Basawaraj S Hasu¹, Dr. B Nageswara Rao², K Vinod Kumar³

^{1,2,3}Department of Mechanical Engineering

^{1,2,3}AVN Institute of Engineering & Technology, Hyderabad, India

Abstract- Vibrating screens are used to separate bulk materials in a mixture of different sized particles. For example sand, gravel, river rock and crushed rock, and other aggregates are often separated by size using vibrating screens. These vibrating screens adopt two motors. These motors are the main source of vibrations. The raw materials will be up-thrown with the vibrating forces and self-gravity and start a skipped movement straightly to achieve the purpose of the screening and grading. The vibratory screen designed in this project is used in power plants to separate coal particles of a 6mm size from a mixture of different sized coal particles. The separated coal particles are then sent to a furnace through a conveyor. This process results in efficient burning of the coal. Because of the above application, the design of the vibrating screen is very important. As per the design of the existing vibratory screen, the life of the vibratory screen is more than ten years, but most of the vibratory screens get failed within one year due to the occurrence of resonance. The target of this project is to execute a 3D model of the existing vibratory screen (reference design taken from a conveyor fabrication company) and study the dynamic behavior of the screen by performing the finite element analysis. After determining the cause of the failure of the existing vibratory screen through finite element analysis, an alternative design is proposed, which will be resonant free and also meet the design requirement. The modal and harmonic analysis is performed to analyses and optimize the dynamic behavior of the vibratory screen. NX-CAD software is used for 3D modeling and ANSYS software is used to do finite element analysis.

I. INTRODUCTION

VIBRATING SCREEN ASSEMBLY

Vibrating screens are used to test the material to different sizes with the help of the screen the material that is crushed are categorized into various as per the requirement, and then sent to further processes. These are used in cement industries and thermal plants to screen the various sizes of the coal that comes to the screen from the crusher. The required size of the coal is filtered to the bottom of the screen and sent

to the next processing section, and the remaining material is sent again to the crusher.

Operating Principle

It modifies the amplitude by tube-shaped violent vibration screen of the eccentric shaft and eccentric blocks. The body moves like a circle, to make the materials screened.

Construction of machine

The display basket is of welded, riveted bolted construction. The vibrator assembly consists of a shaft on which unbalanced weights are fixed. This shaft frequently runs into first self-aligning spherical roller bearing sealed in a housing. The spring assembly normally consists of helical spring or combination of both. Screening decks consist of knitted wire screen cloth or perforated plate and grizzly bar type construction. The screen gets its motion from an electric motor through a v-belt drive.

II. LITERATURE REVIEW

The influence of screen design parameters on the operation efficiency of secondary crushing plants by J. A. Meech and R. J. Tucker. An analysis of screen design options on the operating efficiency of secondary crushing plants has been conducted using a dynamic computer model. The model allows for the simulation of a wide variety of crushing circuits and can be run on either a microcomputer (IBM PC/XT) or a large time-sharing mainframe computer. Separation characteristics and size reduction of crushers and screens are based on standard manufacturer design and performance data. Input/output routines are available in tabular, alarm or strip chart recorder modes to facilitate operation of the program. Some alternate circuit designs are compared to show the influence of surge capacity, screen size and area, screen deck location, and closed side crusher settings on the operation of a 10,000 ton per day plant. The program is currently in use at Queen's University to teach plant operations and control. It has potential to be a valuable tool for operator training.

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LIFE CYCLE EXERGY ANALYSIS OF A SOLAR PV SYSTEM

B.Bharath Kumar¹, P.Suresh Kumar², S.Nagaraju³

Asst.Professor, Department of Mechanical, TPIST, Komatipalli, VZM Dist. A.P. India

ABSTRACT: Solar energy is a clean, abundant and easily available renewable energy. Usage of solar in different kinds of systems provides scope for several studies on exergy analysis. Solar photovoltaic (PV) system is one of the most significant and rapidly developing renewable energy technologies. PV system is a semi conductor device, which converts sun light directly into the useful electricity. The Energy Payback Time (EPBT) of a PV system lies between 10 to 15 years depending on insulation and its performance. Life cycle of a PV system performance mainly depends on climatic, operating and design parameters such as ambient temperature, solar radiation intensity and PV system temperature. A life cycle exergy analysis has been made of the different components for the system. This paper shows the efficiencies and exergy losses involved.

Key words: Solar Pv System, Exergy, Solar radiation intensity, overall heat loss coefficient.

1. INTRODUCTION

Renewable energies are going to be a main substitute for fossil fuels in the coming years for their clean and renewable nature. A solar photovoltaic (PV) system is one of the most significant and rapidly developing renewable-energy technologies, and its potential future uses are notable. PV array performance parametrically depends on climatic, operating and design parameters such as ambient temperature, solar radiation intensity, PV array temperature, overall heat loss coefficient, open-circuit voltage, short-circuit current, maximum power point voltage, maximum power point current, PV system area, etc. It can be evaluated in terms of energy efficiency and exergy efficiency. Its evaluation based on the first and second law of thermodynamics is known as energy efficiency and exergy efficiency, respectively. The energy analysis has some deficiencies, fundamentally, the energy concept is not sensitive with respect to the assumed

direction of the process; for example, energy analysis does not object if heat is considered to be transferred spontaneously in the direction of increasing temperature. It also does not distinguish the quality of energy; for example, 1W of heat equals 1W of work or electricity. Energy analyses on their own incorrectly interpret some processes; for example, environmental air, when isothermally compressed, maintains its energy (e.g., enthalpy) equal to zero, whereas the exergy of the compressed air is greater than zero. However, exergy data are more practical and realistic in comparison with the respective energy values. Thus, exergy analysis usually provides a more realistic view of process than energy analysis; sometimes, they are different. The energy conversion factor of a solar PV system sometimes is described as efficiency, but this usage, sometimes leads to some difficulties such as follows. The energy efficiency of a PV array can be considered as the ratio of the electricity generated to the total, or global, solar irradiation. In this definition, only the electricity generated by a PV array is considered. The other components and properties of a PV array, such as ambient temperature, PV array temperature, chemical potential components, and heat capacity of a PV array, are not directly taken into account. However, the exergy efficiency of a PV array includes most of the climatic, geometric, and operating parameters of a PV array and involves the thermal properties and chemical potential components of it directly.

1.1 Photovoltaic System Background:

The physical phenomenon responsible for converting light to electricity—the photovoltaic effect—was first observed in 1839 by a French physicist, Edmund Becquerel. Becquerel noted a voltage appeared when one of two identical electrodes in a weak conducting solution was illuminated. The PV effect was first studied in solids, such as selenium, in the 1870s. In the 1880s, selenium photovoltaic cells were built that exhibited

A Review on Micro-algae as a Potential source of Extraction of Bio-Fuels

S.Naga Raju¹, P.Krupa rao², B.Bharath Kumar³

¹Asst.Professor, ²Asst.Professor, ³Asst.Professor Dept. Of Mechanical Engg, I P Institute of Sci&Tech, Bobbili

ABSTRACT: Rapid depletion of fossil fuel demanded the alternative and sustainable fuel, which can replace the conventional fuel for the fulfillment of energy crisis with minimal environmental impact. Researchers burning issue over the world are working overnight to discover renewable, sustainable and eco-friendly energy sources. The properties of biodiesel are very close to diesel and it can be blended at any portion with diesel and can be used in existing engine without any modification. But at present biodiesel costs 1.5e3 times more than diesel due to the higher cost of raw feedstock's and unavailability of oil crops that serves as a source of biodiesel production. Microalgae is one of the most prominent alternative source for the conventional feed stocks. The first and second generation biodiesel research are in saturated level but third generation i.e. biodiesel from algae research is in promising stage. Algae contain highly oil content than other feedstock. The yield (per acre) of oil from algae is over 200 times the yield from the best-performing plant/vegetable oils. Biodiesel from algae is renewable, biodegradable, nontoxic, and potential as a green alternative fuel for CI engine. This is feasible and effective for the production of high quality biodiesel from micro algal oil, and the experiment followed by techniques separation of algae from the water, different techniques to extract the lipid from the algae, extraction of bio-diesel from lipid and its characterization is presented.

1. Introduction:

Rapid depletion of fossil fuel demanded the alternative and sustainable fuel, which can replace the conventional fuel for the fulfillment of energy crisis with minimal environmental impact. Researchers are working overnight to discover renewable, sustainable and eco-friendly energy sources, which can replace or reduce the excess load on the conventional fuel. Thus, developing Viable and renewable source of fuel is

always burning issue over the world. Now a days, Biodiesel becomes an acceptable alternative options to researchers for supplementing conventional fuel. The properties of biodiesel are very close to diesel and it can be blended at any portion with diesel and can be used in existing engine without any modification. But at present biodiesel costs 1.5e3 times more than diesel due to the higher cost of raw feedstock's and unavailability of oil crops that serves as a source of biodiesel production[1]. Microalgae is one of the most prominent alternative source for the conventional feed stocks. The first and second generation biodiesel research are in saturated level but third generation i.e. biodiesel from algae research is in promising stage. Algae contain highly oil content than other feedstock. The yield (per acre) of oil from algae is over 200 times the yield from the best-performing plant/vegetable oils [2]. Biodiesel from algae is renewable, biodegradable, nontoxic, and potential as a green alternative fuel for CI engine [3]. Biodiesel production from vegetable oils has been extensively studied in recent literature reviews whereas a limited number of investigation has been reported for the production of biodiesel from microalgae [4]. Reported that biodiesel from microalgae can be converted either biochemical or thermochemical conversion [5]. Suggested a new process, which combined bioengineering and Transesterification, and reported that. This method is feasible and effective for the production of high quality biodiesel from micro algal oil [6]. and the experiment followed by techniques separation of algae from the water, different techniques to extract the lipid from the algae, extraction of bio-diesel from lipid and its characterization is presented[7]

1.1 Potential of Micro-Algae Biodiesel:

Oil crops, waste cooking oil and animal fat can not realistically satisfy the demand for petroleum diesel. But it can be used as supplement, So that it will reduce the rate of utilization of



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A Review Report on Friction Stir Welding of Various Aluminium Alloys

P.Praveen Kumar¹, Macharla Anil², Shoban Babu Manda³

Assistant Professor, Department of Mechanical Engineering, Mahaveer Institute of Science and Technology,
Bandlaguda, RangaReddy, Telangana, India^(1,2)

ABSTRACT : The comprehensive body of knowledge that has built up with respect to the friction stir welding (FSW) of aluminum alloys since the technique was invented in 1991 is reviewed on this paper. The basic principles of FSW are described, including metal flow and thermal history, before discussing how process parameters affect the weld microstructure and the likelihood of defects. Finally, the range of mechanical properties that can be achieved is discussed. It is demonstrated that FSW of aluminum is becoming an increasingly mature technology with numerous commercial applications.

KEYWORDS: Friction stir welding, metal flow, process parameters, mechanical properties.

I. INTRODUCTION

A method of solid phase welding, which permits a wide range of parts and geometries to be welded are called Friction Stir Welding (FSW), was invented by W.Thomas and his colleagues at The Welding Institute (TWI), UK, in 1991. Friction stir welding has a wide application potential in ship building, aerospace, automobile and other manufacturing industries. The process proves predominance for welding non-heat treatable or powder metallurgy Aluminum alloys, to which the fusion welding cannot be applied. Thus fundamental studies on the weld mechanism, the relation between microstructure, mechanical properties and process parameters have recently been started. Friction stir welding is a relatively simple process as shown in Fig.1. In recent times, focus has been on developing fast, efficient processes that are environment friendly to join two dissimilar materials. The spotlight has been turned on Friction stir welding as a joining technology capable of providing welds that do not have defects normally associated with fusion welding processes. Friction stir welding (FSW) is a fairly recent technique that utilizes a non consumable rotating welding tool to generate frictional heat and plastic deformation at the welding location, thereby affecting the formation of a joint while the material is in the solid state. Figure.1 shows the schematic drawing of friction stir welding representing all the relevant parameters of the process.[1] A rotating tool is pressed against the surface of two abutting or overlapping plates. The side of the weld for which the rotating tool moves in the same direction as the traversing direction, is commonly known as the 'advancing side'; the other side, where tool rotation opposes the traversing direction, is known as the 'retreating side'.

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METAL INERT GAS WELDING (MIG)

Macharla Anil¹, P.Praveen Kumar Reddy², Shoban Babu Manda³

^{1,2} Assistant Professor, Department of Mechanical Engineering, Mahaveer Institute of Science and Technology, Bandlaguda, RangaReddy, Telangana, India

³ Assistant Professor, Department of Mechanical Engineering, AAR Mahaveer Institute of Science and Technology, Bandlaguda, RangaReddy, Telangana, India

Abstract: - Metal Inert Gas welding (MIG) process is an important component in many industrial operations. The GMA welding parameters are the most important factors affecting the quality, productivity and cost of welding. We used the MIG process to find out the characteristics of the metal after it is welded. We use SS410 as our work material and take different values of current, voltage and wire speed and find its effects on Tensile strength and Hardness.

Keyword: - ARC, MIG, SS410, UTM

I. INTRODUCTION

Welding is a metal fabrication process which is used to join metals by the phenomenon of coalescence. The work pieces are melted using heat derived from various energy sources such as a gas flame, an electric arc, friction, ultrasound, electron beam, laser energy, etc., to produce a pool of molten metal (weld pool), which on cooling solidifies to form very strong joints. Use of filler material and application of pressure is also done in order to achieve better and stronger joints.

II. MIG WELDING

MIG welding was developed in the 1940's and 60 years later the general principle is still very much the same. MIG welding uses an arc of electricity to create a short circuit between a continuously fed anode (+ the wire-fed welding gun) and a cathode (- the metal being welded). The heat produced by the short circuit, along with a non-reactive (hence inert) gas locally melts the metal and allows them to mix together. Once the heat is removed, the metal begins to cool and solidify, and forms a new piece of fused metal.

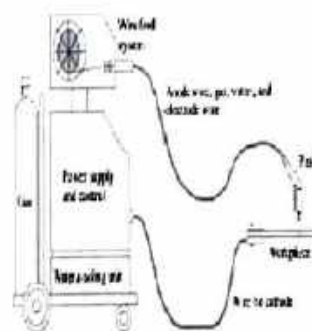


Figure 1

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MIG welding is useful because you can use it to weld many different types of metals: carbon steel, stainless steel, aluminum, magnesium, copper, nickel, silicon bronze and other alloys.

Gas Metal Arc Welding (GMAW) is welding process in which a continuous and consumable wire electrode and a shielding gas are fed through a welding gun. GAS Metal Arc welding process is an important component in many industrial operations. The GMAW welding parameters are the most



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^{1,2} Assistant Professor, Department of Mechanical Engineering, Mahaveer Institute of Science and Technology, Bandlaguda, RangaReddy, Telangana, India

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Abstract: - Metal Inert Gas welding (MIG) process is an important component in many industrial operations. The GMA welding parameters are the most important factors affecting the quality, productivity and cost of welding. We used the MIG process to find out the characteristics of the metal after it is welded. We use SS410 as our work material and take different values of current, voltage and wire speed and find its effects on Tensile strength and Hardness.

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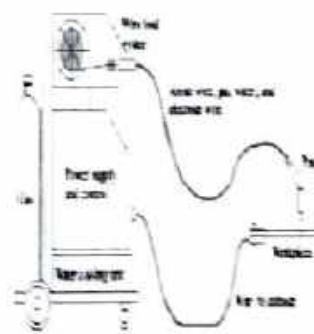


Figure 1

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Bandlaguda, Hyderabad-500 045

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**MINIMIZATION OF MAKE SPAN THROUGH A NEW CONCEPT OF SCHEDULING
SYSTEM BASED ON RCPSH HEURISTICS**

N.Manoj Kumar*, Dr.C. Prabhu Ramakrishnan, Kesavulu.P

*Assistant Professor, Dept. of Meeh, SIETK, Puttur, India

Professor, Dept. of Meeh, SIETK, Puttur, India

Assistant Professor, Dept. of Meeh, SIETK, Puttur, India

ABSTRACT

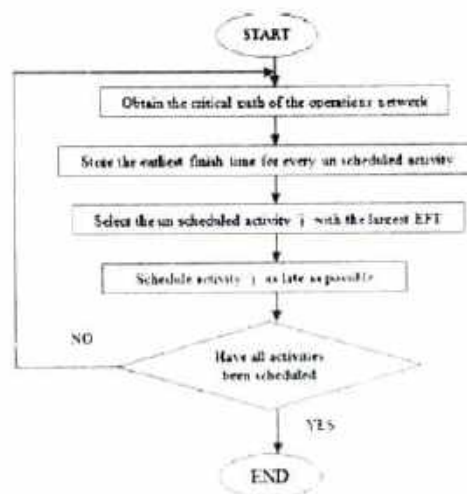
In this paper we consider the problem of scheduling the tasks to workers in a make to order manufacturing company where the products are massive vibrating screens. We consider the above problem because the workers had given more importance as they are the main resources to form the structures following a detailed design drawing. As there is limited work force we considered the RCPSH heuristics taking into account the main constraint as work force. In a make-to-order manufacturing company all the production activities commences when the customer order arrives, hence a detailed step by step procedure from execution of order to shipment was explained in the proposed scheduling system. Then scheduling the operations would be done through LESTA,MINSLK,and H1 heuristic using these heuristics an attempt was made to minimize the make span.

1 Introduction

KEYWORDS: RCPSH, LESTA,MINSLK, and H1.

SECTION -I

GLESTA (Generalized lead time evaluation and scheduling algorithm)



K. Manoj

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Bandlaguda, Hyd-500 005.



A WIDEN EFFECTS OF WELDING PARAMETERS ON THE WELDING OF DCA-TYPE ALUMINUM ALLOY PLATE

M. RAJESH

Ph.D. Production Engineering
 M.Tech. Mechanical Engineering
rajesh@anveshanindia.com

Dr. P. S. SURESH

Ph.D. Production Engineering
 Lect. in Mechanical Engineering
suresh@anveshanindia.com

ABSTRACT

The present study focuses on the effect of welding parameters on the weld quality of DCA-TYPE ALUMINUM ALLOY PLATE. The study is carried out by varying the welding parameters such as welding current, welding speed, electrode diameter, electrode angle, electrode extension, etc. The effect of these parameters on the weld quality is studied. The study is carried out by varying the welding parameters such as welding current, welding speed, electrode diameter, electrode angle, electrode extension, etc. The effect of these parameters on the weld quality is studied. The study is carried out by varying the welding parameters such as welding current, welding speed, electrode diameter, electrode angle, electrode extension, etc. The effect of these parameters on the weld quality is studied.

Keywords: Aluminum Alloy, Welding Parameters, Mechanical Properties, Tensile Test, Impact Test.

INTRODUCTION

Welding is a permanent joining process used to join different materials like metals, alloys, or plastics together at their contacting surfaces by application of heat and/or pressure. During welding, the work-pieces to be joined are melted at the interface and after solidification a permanent joint can be achieved. Sometimes a filler material is added to form a weld pool of molten material which after solidification gives a strong bond between the materials. Weld ability of a material depends on different factors like the metallurgical changes that occur during welding, changes in hardness in weld zone due to rapid solidification, extent of oxidation due to reaction of materials with atmospheric oxygen and

presence of cracks formation in the weld metal.

1.1 Different type of welding processes

Based on the heat source used welding processes can be categorized as follows:

arc Welding: It is a welding process in which electric power supply is used to produce an arc between electrode and the work-piece material. In this, the work-piece metals melt at the interface and welding could be done. Power supply for arc welding process could be AC or DC type. The electrode used for arc welding could be consumable or non-consumable. For non-consumable electrode an external filler material could be used.

Gas Welding: It is a gas welding process in which a focused high temperature flame produced by combustion of gas or gas mixture is used to melt the work pieces to be joined. An external filler material is used for proper welding. Most common type gas welding process is O₂-acetylene gas welding where acetylene and oxygen react and producing white heat.

Resistance Welding: It is a resistance welding process in which heat is generated due to passing of high amount current (100-10,000 A) through the resistance caused by the contact between two metal surfaces. Most common types resistance welding is spot-welding, where a pointed electrode is used. Continuous type joint resistance welding can be used for seam-welding where a wheel-like electrode is used.



A Process Optimization Frame Work for a Agrichem Industry Using Taguchi Approach

B.Bharath Kumar
Assistant Professor,
Department of Mechanical Engineering,
TPIST, Bobbili, Vizianagaram, India.

P.Sriivasa Rao
Assistant Professor,
Department of Mechanical Engineering,
TPIST, Bobbili, Vizianagaram, India.

ABSTRACT:

In This paper, optimization of process parameters is carried out for the three thermal systems namely reactor, condenser and vacuum pump of Nagarjuna agrichem industry by using taguchi method. In the case of reactor, the output response is taken as heat transfer capacity by taking input responses as process temperature, jacket temperature and heat transfer coefficient. In condenser we optimize output response of overall heat transfer coefficient using input responses namely hot vapor inlet temperature, hot vapor flow rate and cold vapor flow rate. In vacuum pump we optimize output response of cavitation using input responses namely discharge, pressure inlet and vapor pressure. At the end of the study, it is identified that it was found that the process parameters for each thermal system in the industry were optimized.

Key words:

Reactor, condenser, vacuum pump, Taguchi.

INTRODUCTION:

Taguchi parameter design offers a systematic approach for optimization of various process parameters with regard to performance, quality and cost. Reactor is a place where all the raw materials are thoroughly mixed in the presence of a catalyst and the desired chemical compounds are formed at the outlet. Condenser is a device in which heat is transferred from one medium to another across a solid surface. The vacuum pump is used to drain out non-condensable gases from the condenser. Taguchi method; a Design of Experiment (DOE) technique was used to optimize the process parameters and improve the efficiency of a Liquid

Ring Vacuum Pump (LRVP). The tools and techniques such as, orthogonal array, signal-to-noise ratio (S/N) were employed in Taguchi method to study the process parameters of the liquid ring vacuum pump [1]. This study has shown the application of Taguchi method on the performance evaluation of a chemical process for the production of liquid fuel from waste plastics in a batch reactor [2]. This author Data was taken for a reactor, condenser and vacuum pump with different flow rates, temperatures and discharge to predict the performance of the system. The data was incorporated into the ANN model [3]. Neural networks model was developed to predict overall heat transfer coefficient U Design of the design condenser system and the model was trained, validated and tested for generalization [4].

Taguchi experimental design is a design that differentiates between control factors and noise or uncontrollable factors and treats them separately by means of special design matrices called Orthogonal Arrays (OA) [5]. The use of these arrays helps to determine the least number of experiments needed for a given set of factors. From the above literature survey, it is identified that the optimization of process parameters for thermal systems (condenser, vacuum pump, and reactor) is optimized by applying various techniques which involves complexity and difficult procedures. To mitigate these limitations, in this paper Taguchi method is used in a simpler way to optimize the optimum process parameters of thermal systems as follows. In this work Nagarjuna agrichem industry has been taken as a case study.

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MAHAYEN

INSTITUTE OF September 2016

Bandipur, Mysore-576 107



VARIOUS EFFECTS OF WELDING PARAMETERS ON TIG WELDING OF 2024-T3 CLAD ALUMINUM ALLOY PLATE

M. RAJKIRAN

M.Tech, Production Technology,

Save Vaidyanath Institute of Engineering,

[E-mail:rajikiran_dmo@gmail.com](mailto:rajikiran_dmo@gmail.com)

SANTOSH KUMAR DEVARAJU

M.Tech (Ph.D), Assistant Professor,

Dept. of Mechanical Engineering,

[E-mail:devarajusantosh@gmail.com](mailto:devarajusantosh@gmail.com)

ABSTRACT

To improve welding quality in aluminum alloy (Al) plate an automated TIG welding system has been developed, by which welding speed can be control during welding process. Welding of Al plate has been performed in two phases. During 1st phase of welding, single tube welding performed over Al plate and during 2nd phase both side welding performed for Al plate by changing different welding parameters. Effect of welding speed and welding current on the tensile strength of the weld joint has been investigated for both type of weld joint. Optical microscopic analysis has been done on the weld zone to evaluate the effect of welding parameters on welding quality. Micro-hardness value of the welded zone has been measured at the cross section to understand the change in mechanical property of the welded zone.

Keywords: Automated TIG Welding System, Micro hardness Test, Tensile Test

INTRODUCTION

Welding is a permanent joining process used to join different materials like metals, alloys or plastics, together at their contacting surfaces by application of heat and or pressure. During welding, the work-pieces to be joined are melted at the interface and after solidification a permanent joint can be achieved. Sometimes a filler material is added to form a weld pool of molten material which after solidification gives a strong bond between the materials. Weld ability of a material depends on different factors like the metallurgical changes that occur during welding, changes in hardness in weld zone due to rapid solidification, extent of oxidation due to reaction of materials with atmospheric oxygen and

tendency of crack formation in the joint position.

1.1 Different type of welding processes

Based on the heat source used welding processes can be categorized as follows:

Arc Welding: In arc welding process an electric power supply is used to produce an arc between electrode and the work-piece material to joint, so that work-piece metals melt at the interface and welding could be done. Power supply for arc welding process could be AC or DC type. The electrode used for arc welding could be consumable or non-consumable. For non-consumable electrode an external filler material could be used.

Gas Welding: In gas welding process a focused high temperature flame produced by combustion of gas or gas mixture is used to melt the work pieces to be joined. An external filler material is used for proper welding. Most common type gas welding process is Oxy-acetylene gas welding where acetylene and oxygen react and producing some heat.

Resistance Welding: In resistance welding heat is generated due to passing of high amount current (1000- 100,000 A) through the resistance caused by the contact between two metal surfaces. Most common types resistance welding is *Spot-welding*, where a pointed electrode is used. Continuous type spot resistance welding can be used for *seam-welding* where a wheel-shaped electrode is used.

Performance prediction of a thermal system using Artificial Neural Networks

M.Srinivasa Rao¹, B.Bharath kumar²

¹Professor, Department of mechanical engineering, GMRIIT, Rajam, Srikakulam.

²M.Tech Student, Department of mechanical engineering, GMRIIT, Rajam, Srikakulam.

Abstract:- Condenser is a device in which heat is transferred from one medium to another across a solid surface. The performance of condenser deteriorates with time due to fouling on the heat transfer surface. It is necessary to assess periodically the condenser performance, in order to maintain at high efficiency level. Industries follow adopted practices to monitor but it is limited to some degree. In this paper, performance monitoring system for a condenser is developed using artificial neural networks (ANNs). Experiments are conducted based on full factorial design of experiments to develop a model using the parameters such as temperatures and flow rates. ANN model for overall heat transfer coefficient of a design/ clean condenser system is developed using a feed forward back propagation neural network and trained. The developed model is validated and tested by comparing the results with the experimental results. This model is used to assess the performance of condenser with the real/fouled system. The performance degradation is expressed using fouling factor (FF), which is derived from the overall heat transfer coefficient of design system and real system. It supports the system to improve the performance by asset utilization, energy efficient and cost reduction in terms of production loss.

Keywords:- Condenser; Full factorial design of experiments(DOE);Artificial neural networks (ANNs); overall heat transfer coefficient; Fouling factor(FF).

I. INTRODUCTION

A condenser has two main advantages: The primary advantage is to maintain a low pressure (atmosphere or below atmosphere pressure) so as to obtain the maximum possible energy from steam and thus to secure a high efficiency. The secondary advantage is to supply pure feed water to the hot well, from where it is pumped back to the boiler.

It is recommended the (ANN) can be used to predict the performance of thermal system in engineering applications, such as modelling condenser for heat transfer analysis. Afterwards, ANN resulted used to find thermal parameters (convection heat transfer coefficient of water side h_w , and steam flow rate m_s) based on software program built by Matlab language[1]. The prediction of fouling in condenser is heavily influenced by the periodic fouling process and dynamics change of the operational parameters, to deal with this problem, a novel approach based on fuzzy stage identification and Chebyshev neural network is proposed[2]. This model is used to assess the performance of heat exchanger with the real/fouled system. The performance degradation is expressed using fouling factor (FF), which is derived from the overall heat transfer coefficient of design system and real system[3]. The multi-input multi-output (MIMO) neural network is separated into multi-input single-output (MISO) neural networks for training. Afterwards, the trained MISO neural networks are combined into a MIMO neural network, which indicates that the number of training data sets is determined by the biggest MISO neural network not the whole MIMO network [4]. The author present and discuss a stochastic approach to the analysis of fouling models. In view of the performance indicator (U/U_c) of the heat exchangers, a maintenance strategy for planned maintenance schedules is presented. Various scenarios of reliability based maintenance strategy are introduced. The strategy is explained in terms of the scatter parameter (σ) of the time to fouling distribution corresponding to a critical level of fouling, and the risk factor (p) representing the probability of tubes being fouled to a critical level after which a cleaning cycle is needed[5]. The author presents an analytical and computational modelling of the effect of the space surrounding the condenser of a household refrigerator on the rejected heat. The driving force for rejecting the heat carried by the refrigerant from the interior of a refrigerator is the temperature difference between the condenser outer surface and surrounding air[6]. Due to the fouling deposit on the heat transfer surfaces, the thermal resistance between refrigerant and water gradually increases. The fouling resistance depends on several factors such as heat exchanger geometry, heat flux, water quality and water flow rates [7].



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Bardlaguda, Hyd 500 005.

A Frame work for performance evaluation of a process industry: A case study

M.Srinivasa Rao^{*1}, B.Bharath Kumar^{**2}

¹Professor, Department of mechanical engineering, GMRIIT, Rajam, Srikakulam, India

²M.Tech Student, Department of mechanical engineering, GMRIIT, Rajam, Srikakulam, India

Abstract:

Three thermal systems reactor, condenser and vacuum pump of Nagarjuna agrichem industry are selected and predicted the performance by using Artificial Neural Networks (ANN). Reactor is a place where all the raw materials are thoroughly mixed in the presence of a catalyst and the desired chemical compounds are formed at the outlet. In reactor we are predicting the heat transfer capacity using heat transfer rate which is generated from ANN. Condenser is a device in which heat is transferred from one medium to another across a solid surface. In this paper, performance monitoring system for a condenser is developed using artificial neural networks (ANNs). The vacuum pump is used to drain out non-condensable gases from the condenser. The Cavitation performance is predicted for vacuum pump using ANN.

Key words Reactor, condenser, vacuum pump, ANN.

1.INTRODUCTION

Batch reactors are used extensively for the manufacture of small volume high value added products to increase in production facilities intended for multipurpose use. A vessel in which chemical reactions take place is a reactor. A combination of vessels is known as a chemical reactor network. Chemical reactors have diverse sizes, shapes, and modes and conditions of operation based on the nature of the reaction system and its behaviour as a function of temperature, pressure, catalyst properties, and other factors. The shape and mode of operation of a reactor for large scale industrial reactor is designed for efficient production rather.

Condenser is a heat exchanger used to condense the hot vapors from reactor. The performance of condenser deteriorates with time due to fouling on the heat transfer surface. It is necessary to assess periodically the condenser performance, in order to maintain at high efficiency level.

A compressor for exhausting air and non-condensable gases from a space that is to be maintained at sub-atmospheric pressure. A device that reduces the pressure of a gas (usually air) in a container is vacuum pump. When gas in a closed

container is lowered from atmospheric pressure, the operation constitutes an increase in vacuum in this container. Vacuum pumps are evaluated for the degree of vacuum they can attain and for how much gas they can pump in a unit of time. In practice, where high vacuum is required, two or more different types of pumps are used in series.

To achieve stable and reproducible operational conditions is increasingly of importance to achieve the required product purity, optimum yields and cycle times to satisfy the relevant regulatory authorities and commercial requirements. This author reviews the basic techniques for process modelling and control of batch reaction systems under steady state and dynamic conditions [1]. This author researches regarding the use of neural network inverse model based controller to control the temperature of the chemical reactor. Neural network control was chosen due to its capabilities to overcome the hassle in periodically tuning the conventional controller in obtaining good process response for certain set point[2]. The neural network predictive controller that is discussed in this paper uses a neural network model of a nonlinear plant to predict future plant performance. The controller calculates the control input that will optimize plant performance over a specified future time horizon [3].It is recommended the (ANN) can be used to predict the performance of thermal system in engineering applications, such as modelling condenser for heat transfer analysis. Afterwards, ANN resulted used to find thermal parameters (convection heat transfer coefficient of water side h_w and steam flow rate m_s) based on software program built by Matlab language [4].The author present and discuss a stochastic approach to the analysis of fouling models. In view of the performance indicator (U/Uc) of the heat exchangers. Various scenarios of reliability based maintenance strategy are introduced. The strategy is explained in terms of the scatter parameter (α) of the time to fouling distribution corresponding to a critical level of fouling, and the risk factor (p) representing the probability of tubes being fouled to a critical level after which a cleaning cycle is needed [5] This model is used to assess the performance of heat exchanger with the real/fouled system. The performance degradation is expressed using fouling factor R_f derived from the

Influence of coating thickness during zinc deposition on copper by friction surfacing

¹Ch Nushanth, ²D Santhosh Kumar, ³Vikram Yadav, ⁴G Thirupathiah

^{1,2,3}Department of Mechanical Engineering, SVS Group of Institutions, Warangal, Telangana,

⁴Department of Mechanical Engineering, MIST, Hyderabad, Telangana

Abstract

Copper possess high thermal conductivity, highly durability and specifically applied to various field of applications like electrical and mechanical machinery equipments, excellent reproducibility and workability, apart these consistencies, it's quite cheap and it is one among the metals, available abundantly other than good conducting metals like silver. But it has got poor mechanical properties such as wear resistance and hardness. The main disadvantage is its resistance in aggressive environments because of its ability to form Cu-Zn components, which is more resistant to oxidation. Zn is very reactive with oxygen and form ZnO which is impermeable for most of the atmosphere elements, so their presences on the surface of the coating passivity the substrate from further oxidation. For this specific study, deposition of Zinc on copper plate by varying different parameters (i.e., longitudinal feed, speed) on vertical milling machine. The effects of longitudinal feed on the geometry and mechanical properties of the coated metals are investigated by various techniques and also the coating thickness from microstructure of Zinc coating on Copper substrates using moto software.

Keywords: Microstructure analysis, Coating thickness and vertical milling machine

Introduction

Copper is one of the most important metals. It has excellent thermal conductivity and is mainly applied in electrical and machinery applications. Malleability and ductility which make them suitable for a great variety of metallurgical applications such as oxygen nozzles in copper making converters and slag hole in blast furnaces, along with many others continuous casting copper moulds [1]. Zinc have been chosen as coated material because, freshly exposed galvanized copper reacts with the surrounding atmosphere to form a series of zinc corrosion products. In air, newly exposed zinc combines with oxygen to form a very thin zinc oxide layer. Friction surfacing is a solid state deposition process for producing wear and corrosion resistant coatings on metallic surfaces, which involves a rotating rod pushed against a horizontally moving plate. The rotating rod is the coating m8b-7material and the plate is the substrate. The width of the coating depends on the diameter of the consumable rod and is normally in the range of 0.9 times the rod diameter [2]. In this work, the effect of longitudinal feed on coating characteristics have been investigated for friction surfacing (using vertical milling machine) of zinc on copper. The results showed that the significance of longitudinal feed in producing coating with good bonding strength [3]. Surface roughness tool is used to roughen the surface of the copper substrate for fine deposits. Used tool is as shown in the figure 1.



Fig 1: surface roughness tool

After deposition of zinc on copper, at various locations on that coated region we have studied the microstructure by using optical microscope with aver cap software.

2. "Materials and methods"

2.1 "Sample preparation"

The copper was selected as substrate; substrates were collected from hot rolled copper strip by cutting it into 300x170x5mm size piece. For operating conditions, the substrate was cut into 3 plates with dimensions of 300x10x 5mm in size. Using scriber and ruler we marked 170x100mm space over the substrate & by making use of the tool, the surface of the substrate roughed within the prescribed dimensions. Then the substrates were mirror polished by grinding on belt grinder for oxide layer removal, then on emery papers (1/0, 2/0, 3/0, 4/0), then the substrates were cleaned with soap and then washed with water, zinc rod of 9 x 100mm diameter and length was arranged as per the. SM – II vertical milling machine.

2.2 "Experimental setup"

During machining process, the Zinc rod, kept rotating in clockwise direction to deposit the material on copper substrate it acts as a depositing tool as it is inserted into the spindle of the vertical milling machine set at a certain speed of 225 rpm - 310 rpm [4]. When rotational motion was given, friction developed against substrate by the zinc rod, starts depositing over the copper plate. Once, the consumable was sufficiently hot (red hot), and then the traverse feed was given to the surfacing consumable. The hot consumable material flows plastically over the substrate to form a thick coating process shown in Fig.2.

K. Srinivas

STATIC AND DYNAMIC REANALYSIS OF STATICALLY INDETERMINATE BEAMS USING REGRESSION METHOD

Turpunati Shahinsha¹

Department of Mechanical Engineering, G.P.R College of Engineering, Andhra Pradesh, India
Mobile: 9441970859, Email: shahinsha.2001@gmail.com

Dr. Y.V Mohan Reddy², Professor & HOD

Department Of Mechanical Engineering, G.P.R College of Engineering, Andhra Pradesh, India
Mobile: 9443264733, Email: yvmo@rediffmail.com

Abstract—Beams are the fundamental structural components. Most of the structures generally under severe static and dynamic loading and different controlled conditions during their service life. Statically indeterminate beams are the ones where the independent reaction components, and/or interior forces cannot be obtained by using the equations of equilibrium only, to solve indeterminate systems, we must combine concept of equilibrium with compatibility. There are several advantages in designing indeterminate beams. These include the design of lighter and more rigid beams. With added redundancy in the structural system, there is in the overall factor of safety. Most of the structures we encounter in everyday life, automobile frames, buildings, aircraft, are statically indeterminate.

In the present work static analysis of statically indeterminate beams will be studied using FEM, further reanalysis will be applied for static analysis of statically indeterminate beams. Further dynamic analysis of beam will be applied for same beams, reanalysis will be carried out using regression method.

Key words: Shear deformations, Poisson's ratio, Moment of inertia, Elasticity modulus, Shear modulus, Shear area, Density

1. 1. INTRODUCTION

Support reactions and inside forces of statically determinate structures can be determined using only

the equations of equilibrium. However, the analysis of statically indefinite structures requires equations based on the geometry of deformation of the structure. Additional equations come from compatibility relationships, which ensure continuity of displacements throughout the structure. The remaining equations are constructed from member constitutive equations i.e., interaction between stresses and strains and the integration of these equations over the cross section. Design of an indeterminate structure is carried out in an iterative manner, whereby the (relative) sizes of the structural members are initially assumed and used to analyze the structure. Based on the computed results (displacements and internal member forces), the member sizes are adjusted to meet governing design criteria. This iteration process continues until the member sizes based on the results of an analysis are close to those assumed for that analysis. Another consequence of statically indefinite structures is that the relative variation of member sizes influences the magnitudes of the forces that the member will experience. Stated in another way, stiffness (large member size and/or high modulus materials) attracts force. Despite these difficulties with statically indeterminate structures, an overwhelming majority of

Kshirya
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MAHAVEER
INSTITUTE OF SCIENCE & TECHNOLOGY
Baninilaguda, Hyd-500 005.

CYBER CRIME AND CYBER LAW'S

MR. PABBOJU RAMESH, Professor, Department of C.S.E
Mahaveer Institute of Science and Technology, Bandlaguda, Hyderabad, T.S.
e3ese.pramesh@gmail.com

DR. R.NAKKEERAN, Professor & Head, Department of C.S.E
Mahaveer Institute of Science and Technology, Bandlaguda, Hyderabad, T.S.
Sudhandhiram64@gmail.com

Abstract: *The Modern Technology Advanced of computer systems and electronic gadgets are now an integral part of business. These are connecting with the Cyberspace. This brings many challenges to secure these devices. Secure the information and the data stored within them are being a victim of cybercrime. So, the Cyber Security is only the solution to protect through the identification of Cyber threats that can compromise the information stored. The aim of this paper is to understand the Cyber attacks, Cyber Crimes, learning of how to overcome, what are defensive techniques and precautions for overcoming of this Cybercrime. And also this paper gives the information of Indian Cyber Laws, punishments and Cybercrime departments.*

Keywords: Cyber Crime, Cyber Law's, Hackers, Cyber Terrorism.

I. INTRODUCTION

The increasing the use of computational devices include personal computers, desktops, mainframes, servers, workstations, laptops, tablets, hand-held computers, wearable computers and supercomputers and they are connected through loosely coupled internet connection which may cause of increase Cyber Crimes. Therefore, security, privacy, protection of data is mandatory to overcome this Cyber Crimes. Cyber Crime synonyms are Computer-related Crime, E-Crime, High-Tech term, Internet Crime. Cyber crime means performing a criminal act using a cyberspace as the communication channel. As they

considered as Crimes, the Acts and Law's implemented in their respective nations. In INDIA, Cyber Crimes are comes under the Information Technology Act, 2000. The Indian Penal Code, 1860 has also been amended to take into consideration of Cyber Crimes. The IT Act 2000 divided into different Chapters and Sections. In these sections, they mentioned the offenses and punishments. The Cyber Law deals with cyber crimes, digital signatures, intellectual properties and Data protection and the privacy. The main aim of this paper is to give the knowledge on the Cyber Crime activities, types of Cyber Criminals, giving the awareness on "Cyber laws", giving the suggestions to take preventive measures and

A HYBRID STORAGE MODEL FOR MANAGING FINE GRAINED DATA RESOURCES IN CLOUD

B. Seva Naik¹, Dr B.V. Ramana Murthy²,

¹Research Scholar, Dept. of CSE, Rayalaseema University, Kurnool.

²Professor & HOD, Dept. of CSE, Stanley College of Engineering & Technology for Women, Hyderabad.

¹sevanaikb@gmail.com, ²drbvm@gmail.com

Abstract: Despite recent advances in distributed RDF data management, processing large-amounts of RDF data in the cloud is still very challenging. In spite of its seemingly simple data model, RDF actually encodes rich and complex graphs mixing both instance and schema-level data. Sharding such data using classical techniques or partitioning the graph using traditional min-cut algorithms leads to very inefficient distributed operations and to a high number of joins. In this paper, we describe DiploCloud, an efficient and scalable distributed RDF data management system for the cloud. Contrary to previous approaches, DiploCloud runs a physiological analysis of both instance and schema information prior to partitioning the data. In this paper, we describe the architecture of DiploCloud, its main data structures, as well as the new algorithms we use to partition and distribute data. We also present an extensive evaluation of DiploCloud showing that our system is often two orders of magnitude faster than state-of-the-art systems on standard workloads.

Keywords: RDF, triple stores, cloud computing, Big data

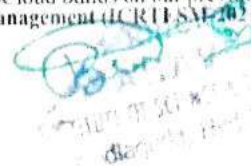
INTRODUCTION

THE advent of cloud computing enables to easily and cheaply provision computing resources, for example to test a new application or to scale a current software installation elastically. The complexity of scaling out an application in the cloud (i.e., adding new computing nodes to accommodate the growth of some process) very much depends on the process to be scaled. Often, the task at hand can be easily split into a large series of subtasks to be run independently and concurrently. Such operations are commonly called embarrassingly parallel. Embarrassingly parallel problems can be relatively easily scaled out in the cloud by launching new processes on new commodity machines. There are however many processes that are much more difficult to parallelize, typically because they consist of sequential processes (e.g., processes based on numerical methods such as Newton's method). Such processes are called inherently sequential as their running time cannot be sped up significantly regardless of the number of processors or machines used. Some problems, finally, are not inherently sequential per se but are difficult to parallelize in practice because of scaling unstructured data processing often falls in the third the profusion of inter-process traffic they generate. Traditionally, relational data processing is scaled out by partitioning the relations and rewriting the query plans to reorder operations and use distributed versions of the operators enabling intra-operator parallelism. While some operations are easy to parallelize (e.g., large-scale, distributed counts), many operations, such as distributed joins, are more complex to parallelize because of the resulting traffic they potentially generate. While much more recent than relational data management, RDF data management

has borrowed many relational techniques. Many RDF systems rely on hash-partitioning (on triple or property tables, see below Section and on distributed selections, projections, and joins. Our own Grid-Vine system was one of the first systems to do so in the context of large-scale decentralized RDF management.

Hash partitioning has many advantages, including simplicity and effective load-balancing. However, it also generates much inter-process traffic, given that related triples (e.g., that must be selected and then joined) end up being scattered on all machines. In this article, we propose DiploCloud, an efficient, distributed and scalable RDF data processing system for distributed and cloud environments. Contrary to many distributed systems, DiploCloud uses a resolutely non-relational storage format, where semantically related data patterns are mined both from the instance-level and the schema-level data and get co-located to minimize inter-node operations. The main contributions of this article are: a new hybrid storage model that efficiently and effectively partitions an RDF graph and physically co-locates related instance data a new system architecture for handling fine-grained RDF partitions in large-scale; novel data placement techniques to co-locate semantically related pieces of data (Section 5); new data loading and query execution strategies taking advantage of our system's data partitions and indices; an extensive experimental evaluation showing that our system is often two orders of magnitude faster than state-of-the-art systems on standard workloads. DiploCloud builds on our previous approach, an efficient single node triplestore. The system was also extended in Triple Prov to support storing, tracking, and querying provenance in RDF query processing.

In this article, we propose DiploCloud, an efficient, distributed and scalable RDF data processing system for distributed and cloud environments. Contrary to many distributed systems, DiploCloud uses a resolutely non-relational storage format, where semantically related data patterns are mined both from the instance-level and the schema-level data and get co-located to minimize inter-node operations. The main contributions of this article are: a new hybrid storage model that efficiently and effectively partitions an RDF graph and physically co-locates related instance data (Section 3); a new system architecture for handling fine-grained RDF partitions in large-scale (Section 4); novel data placement techniques to co-locate semantically related pieces of data (Section 5); new data loading and query execution strategies taking advantage of our system's data partitions and indices (Section 6); an extensive experimental evaluation showing that our system is often two orders of magnitude faster than state-of-the-art systems on standard workloads. DiploCloud builds on our previous approach.



Analysis of the Security of Bluetooth Low Energy with the focus on Network Layer

G.Manasa

Asst.Prof., Dept of CSE, Mahaveer Institute of Science & Technology, mail-id:manasa.587@gmail.com

G. Uday kumar

Asst.Prof., Dept of CSE, Siddhartha Institute of Science & Technology, mail id: uday518@gmail.com

Abstract—The specified optimization and improvements in Bluetooth Low Energy (BLE) which was proposed from 2010, make this protocol one of the most important ones in the IoT paradigm. While, The things are connected to the internet can communicate through different networks with different protocols. This is a technology known as IoT which facilitates data exchange between billions of sensors, servers and devices all around us. The BLE is an IoT compatible technology connecting millions of devices these days. However, its crucial role and all security issues around it remains out of sight in many cases.

Diverse applications of BLE in IoT-based structures and networks which is in a growing status makes the security issues around this concept, one of the most significant parts to be focused. The importance of reliable networks for the things to be connected, sharing data and making decisions based on the replicated states, while using BLE in different steps of this process, make the safety and security of the systems one of the primary concerns.

In this survey, we try to scrutinize the design of BLE-based devices in which adaptively and securely maintain security preferences for IoT systems in the whole network. Furthermore, we will try to mention the latest security solutions for the newest found vulnerabilities.

Bluetooth Low Energy (BLE), Internet of Things (IoT), security, vulnerabilities

I. INTRODUCTION

As an open standard for short-range radio frequency (RF), Bluetooth allows for establishing communication and creates wireless personal area networks (WPANs) [1]. WPAN (with a common range of 10m) [2] revolves around the personal area space of a user. In particular, Bluetooth Low Energy (BLE) is a Bluetooth-based WPAN technology which was started to be known in 2010 with the introduction of BLE 4.0 specification [1]. The low power consumption of BLE is one of the most special characteristics of this protocol which makes it suitable for the devices in which it is embedded [3]. The Nokia Corporation was the first commercial company which utilized BLE practically in his products in 2013 at the time of emerging the first developments of 802.15.4 standard [1]. The importance of this version lies in establishing Internet Protocol based-connectivity for devices to enable the Internet of Things (IoT), resulting in Bluetooth-enabled devices [4]. Moreover, Internet Protocol Support Profile (IPSP) was added, leading to an updated version of Bluetooth v4.2 in December 2014 in which IPv6 connectivity for Bluetooth devices was enabled [5]. This made it easy for Bluetooth Smart sensors to be directly connected to the Internet via IPv6/6LoWPAN [4].

Progressive influence of BLE usage in IoT stems from the made improvements to connect unconnected people (P) and machines (M) to create interconnecting networks such as P2P using sensors.

We named all the Bluetooth versions before 4.0 classic Bluetooth which are not our main focus in this paper. All the versions beginning from 4.0 are known as smart Bluetooth (BLE). While the BLE seems to be a convenient and handy protocol for IoT means of implementation, it did not present any centralized security infrastructure [6]. Many vulnerabilities in different layers of this protocol are faced, which make the security concept as an important issue [6].

As the growing use of BLE in IoT devices and related technologies is undeniable, the Bluetooth SIG (Special Interest Group) offers many improvement and enhancements in the security implementation in new specifications. Focus on security and efficiency of BLE, really commenced from the released version of Bluetooth LE 4.2 in 2014 [7]. Three main updates in data length, privacy at the link layer (LL), and improved security made this specification as more exclusive as it can be for new IoT designs [7].

The Bluetooth LE version 5.0 [8] and the newest version of BLE [9] (published in January 2019) [9] seems to outperform other previous versions in some vital issues.

For designing a secure wireless system, there are two important issues ought to be considered: Device tracking and unauthorized wireless data access protection [1]. After the announcement of BLE version 4.2, many optimizations were made to address and solve LE security vulnerabilities. When a BLE device is in the advertisement mode trying to make a connection with another device address packets are sent to make this connection happen. Any decoding of this packet in this mode makes this possible for the attacker to track that BLE device. Identity Resolving Key (IRK) as a shared secret key is exchanged between BLE devices to prevent this attack [7]. In the late released Bluetooth LE specifications many materials around different techniques addressing this security issue is discussed, and many related solutions are offered; resolvable private address generation, resolvable address resolution, resolvable private address time out, device filtering, and directed connectable advertisement are some of the proposed features making the connection between peripheral and central nodes more secure [7], [8], [9].

On the other hand, protection and the management of BLE

Measuring the impact of online concretization

A. Sarala Devi

Assoc. prof.

Mahaveer Institute of Science and Technology

ABSTRACT

Research on understanding, developing and assessing personalisation systems is spread over multiple disciplines and builds on methodologies and findings from several different research fields and traditions, such as Artificial Intelligence (AI), Machine Learning (ML), Human-Computer Interaction (HCI) and User Modelling based on (applied) social and cognitive psychology. The fields of AI and ML primarily focus on the optimisation of personalisation applications, and concentrate on creating ever more accurate algorithmic decision makers and prediction models. In the fields of HCI and Information Systems, scholars are primarily interested in the phenomena around the use and interaction with personalisation systems, while Cognitive Science (partly) delivers the theoretical underpinnings for the observed effects. The aim and contribution of this work is to put together the pieces about the impact of personalisation and recommendation systems from these different backgrounds in order to formulate a research agenda and provide a perspective on future developments.

1. Introduction

Nowadays, online personalisation encompasses all aspects of individualising the interaction and information content a system exchanges with its users. Different approaches and definitions towards personalisation exist, as summarised by Fan and Poole (2006). The main focus of the present paper is online personalisation, where a system: (1) makes assumptions on an individual's goals, interests and preferences, (2) in order to tailor interaction and content, (3) so as to provide the most relevant user experience. In this perspective, the personalisation process consists of a: (1) learning, (2) matching, and (3) evaluation stage – as has been proposed, for instance, by Murthi and Sarkar (2003). In this paper, we will primarily concentrate on the evaluation stage, and discuss measurement and evaluation approaches to determine the impact of personalisation mechanisms. Specifically, we will describe how personalisation research has evolved over time – from activities aimed at making systems adaptable for better usability to development of ever more accurate prediction mechanisms. Research into personalisation essentially is multidisciplinary in nature – i.e., formed and influenced mainly by academic disciplines such as Artificial Intelligence (AI) and Machine Learning (ML), Human-Computer Interaction (applied) social and cognitive psychology. We acknowledge that part results in separate subsections. Also, we will provide an outlook on future opportunities and challenges for research into online personalisation. We will argue that future research endeavours should aim at resolving the disaccord between chasing ever more opportunities for measurement and learning on the one hand, and, on the other hand, raising awareness about the importance of information privacy and regulatory requirements, to improve transparency in the context of a post-GDPR Europe (see Section 4). Representative areas, such as adaptive hypertext and hypermedia (Brusilovsky, 1998), recommender systems (Jannach et al., 2010; Ricci et al., 2015), web personalisation (Mobasher et al., 2000), information filtering (Foltz and Dumais,

1997), and personalised information retrieval (Grossman et al., 2013) all shaped the concepts of personalising system behaviour and/or its output towards users. As a result, the design space for adaptation and personalisation mechanisms nowadays consists primarily of the following three dimensions:

adaptation of available control functionality and input elements) are ways to tailor the interaction space between a system and its users. Dating back to the pre-Web era and traditional (Web 1.0) desktop user interfaces (UIs) this research adapts control structures and menu navigation based on system monitoring and assumptions about users' imminent needs (Greenberg and Witten, 1985). The purpose of this type of adaptivity primarily lies in making users more efficient in using information systems, as has been measured, for instance, through visual search time and required motor movements (Faulstich and Gajos, 2009). Consensus exists on achievable benefits in terms of user satisfaction and performance of adaptive UI elements, but also negative impacts – even of highly accurate adaptation mechanisms – have been identified (Faulstich and McGrenere (2010), for instance, showed that a user's awareness to new features and the likelihood of using those features later on dramatically reduced performance on new tasks – i.e., personalised adaptation was detrimental to incidental learning of system features. Interestingly, this finding is called the serendipity problem in content personalisation, and refers to the fact that highly accurate content recommendations may reduce the likelihood to experience unexpected and fortuitous items (McNee et al., 2006a).

Content: Content traditionally encompasses items or objects such as news articles, products, or media content in the broadest sense of the word; it may however also refer to price tags, service offerings, or highly specific, fine-grained differences in textual wordings. The first research endeavours on selective filtering of information objects for different users date from the late 1950s (Hensley, 1963), but the application-oriented research domain on recommender systems (RS) emerged in the early stages of Web 1.0 (Jannach et al., 2016). Research on RS truly gained momentum in the subsequent Web 2.0 era, when large amounts of (socially) networked data became available (Chen et al., 2012). RS produce personalised rankings of large sets of items based on their presumed relevance to recipients. A multitude of evaluation approaches have been proposed for measuring the impact of personalised content, ranging from purely accuracy-driven AI and ML applications, as well as marketing research on customer value and customer churn minimisation, to cognitive and social psychological study of user satisfaction and user engagement.

Interaction process: The ubiquity of information access opportunities, and the pervasiveness of data collection – also outside of the traditional browser window – in the Web 3.0 era

HUMAN ACTIVITY PATTERNS PREDICTION (HAPP) SYSTEM FOR SMARTHOME AUTOMATION

K GIRI BABU
Assistant Professor, CSE
Mahaveer Institute Of Science and Technology
girik019@gmail.com

Abstract: This project proposes a model (HAPP) that utilizes smart home big data as a means of learning and discovering human activity patterns for Smart home applications. The proposed model uses frequent pattern mining, cluster analysis, and prediction to measure and analyze energy usage changes sparked by occupants' behavior. HAPP system addresses the need to analyze energy utilization patterns at the appliance level, which is directly connected to human activities. The data from digital meters are repeatedly mined in the quantum data slice of 24 h. and the results are maintained across successive mining exercises. According to, it was established that the FP-growth is as successful as other techniques, such as the Eclat method for fast discovery of association rules, a recursive elimination method, Relim, to find frequent item sets and the Decision tree algorithm. Finally, the FP-growth has given to the K-pattern clustering as input and its effective contributes extensively to the recognition of frequent activity patterns of user behavior in the smart home environment.

1.INTRODUCTION

HAPP model based on appliance usage variations in smart homes appliance. This model utilize FP growth for pattern recognition. This model applies k- means clustering algorithm to identify

Appliance time associations. This is achieved by Incremental mining. A Bayesian network has been applied for activity forecast based on individual and multiple machine usage.

This project proposes a model (HAPP) that utilize smart home big data as a means of learning and discovering human activity pattern for Smart home applications. The

Proposed model uses frequent pattern mining, cluster analysis, and prediction to compute and analyze energy usage changes sparked by occupants' behavior. HAPP

A Qualitative approach for Software-Defined-Networks with Internet-of-Things

M. Sreenivas Reddy, Assistant Professor Dept. of CSE,
Mahaveer Institute of Science & Technology, Hyderabad

Abstract:

The Internet of Things (IoT), is a key component of connected living and industrialization. The IoT framework already has connections to over a billion devices, and that number is increasing rapidly. The current network infrastructure is rigid and limits the immense possibilities that IoT offers. Software defined networking (SDN), with its flexibility and elasticity, is a promising network technique to realize robust IoT. SDN is very suitable for controlling and managing IoT. There are many challenges and issues that must be addressed when implementing an SDN-based IoT ecosystem. We will be discussing the challenges and issues faced by network designers when deploying SDN over IoT.

Keywords: SDN, IOT, Layers, Protocols.

I INTRODUCTION:

The Internet of Things (IoT), a constrained and much larger network infrastructure than the legacy infrastructures operators have known for decades is highly constrained. The future will see tens to billions of connected objects. IoT will serve as the de factory network infrastructure for many emerging services. Many operators see these services as potential business opportunities. Many IoT services can be deployed at home or in dense urban areas. Others IoT services such as energy distribution and e-health are deployed at a local, national, and even global scale. They require large-scale computing, storage, networking, and computation. IoT

connectivity services are dependent on basic functions like forwarding and routing and quality of service (QoS) and security.

Operators need to be flexible and agile because of the nature of IoT services. You may have some capabilities such as a firewall that you need to create, deliver and maintain an IoT service. These capabilities can be hosted on different platforms, usually in a cloud infrastructure. In-network nodes, such as dedicated service cards and devices with dedicated hardware, can support other capabilities such as traffic forwarding or QoS. The flexibility of cloud-based hosted service platforms and applications, coupled with SDN techniques [4] which include dynamic service-inferred IoT resources

Dynamic Speech Recognition to model with Machine Learning capabilities with robotic technologies used in surgery

Mrs. Swapna Mandala
swapnamandala@gmail.com
Assistant professor

Department of computer science and technology

1. Abstract

This article liberalize this machine learning features as it is utilizes within the emerging edge and as feature highlighter to speech recognition approaches on present-day surgical robots. The desire is to advance the event of medical robots among the machine learning and speech recognition liberal that has opened up from the purpose of view of health care services in social protection. The machine learning hypotheses and models are used for pattern recognition structures combined with speech synthesis model with advanced robotic options in medical field. Machine learning is displayed within the comprehension of speech recognition components and its influence in biomedical robots for surgeries. Topical advances of machine learning and intelligent algorithms, further accentuations on their vast hugeness within the improvement of speech recognition in medical surgical applications.

2. Keywords

Dynamic Speech synthesis(DSS), Surgical robotic technique(SRT), ANN(artificial Neural Network)

3. Introduction

The Enhancement of dynamic speech recognition system to model different machine learning hypothesis patterns which suits to train data from supervised instructions given to a robotic machine which uses various hypothesis model to classify correct data which are used for medical applications in which contactless procedure of medication surgeries are done by the training robots by giving series of supervised instruction are learnt from this proposed paper. Further unequivocally, this paper offers different approaches to classify the correct data patterns identified by using different machine learning hypothesis to model the trained data sets by using dynamic speech recognition methods. By grouping different sets of trained data and the same set of supervised instruction are given to robot to perform the instruction task given by the medical supervisor for a contact less and efficient way of performing typical surgeries through the vast models of machine learning. Further machine learning also supports Artificial neural networks for handling complex data structured patterns which can correctly classifies the trained data embedded into the robotic machine to perform the instructions of medical supervisors.

While tangling on the key recognizing factors related with the various gatherings of the ML algorithms, remarkable thought is remunerated to the related figure urbanized in ASR investigate. It is learnt that ML provides an attempt to solve the complex train data to be programmed and classified according to the continuous speech instruction so that it understands so by making wiser hypotheses model or learning pragmatic dependence within the trained data sets which yields positive target function domains.

A STUDY OF CRYPTOCURRENCY, BITCOIN, AND THE FUTURE

M.SRINIDYA

Assistant Professor

Computer Science and Engineering Department

Mahaveer Institute of Science and Technology

Banclaganu Hyderabad

Abstract

Cryptocurrency, an encrypted peer-to-peer network for facilitating digital trade, is a technology developed few years ago. Cryptocurrency is specific type of virtual currency based on principles of cryptography and electronic communication. Cryptocurrency works best when the volume of transactions is large relative to the individual transaction size. Cryptocurrencies are not likely to replace traditional decree currency, but could change the way Internet-connected global markets interact with each other, clearing away barriers surrounding normative national currencies and exchange rates. In recent years emerged dozens of crypto currencies, while Bitcoin, the first and most popular cryptocurrency, is paving the way as a disruptive technology to long standing and unchanged financial payments systems that have been in place for many decades. Two main properties have probably been a key success to Bitcoin, anonymity and decentralization. A SWOT analysis of Bitcoin is presented, which illuminates some of the recent events and movements that could influence whether Bitcoin contributes to a shift in economic paradigms.

Keywords: Cryptocurrency, Bitcoin, Encrypted virtual currency, Anonymity, Decentralization

INTRODUCTION

Bitcoin is a cryptocurrency, by using a cryptocurrency users are able to exchange value digitally without third party. Cryptocurrency works like the hypothesis of working encryption software to create unique hashes that are finite in number. Combined with a network of computers solving transactions, users are able to exchange value as if exchanging physical currency. There is limited number of bitcoin that will ever be created, preventing hoards and ensuring its fairly distributed value. For bitcoin because its users think that if they accept it as payment they could not elsewhere to purchase something they want or need. So long as the users maintain this faith, the value of bitcoin can be anything. Bitcoin does not have any value like gold, it has to be used to purchase things like jewelry, but the value of bitcoin continues to rise due to trust and

Bitcoin, the largest bitcoin processor in the world. Bitcoin needs user acceptance, vendor acceptance and innovation to ignite. Without all three aspects bitcoin may not become a legitimized mainstream currency. Cryptocurrency is a transformative technology that alters the way money is exchanged worldwide. Bitcoin's increased adoption has been integrally tied to global market shifts.

SECURE AND TRUSTABLE ROUTING USING ACTIVE TRUST IN WSN

Mohammed Siddique ¹

Assistant Professor, Department of Computer Science and Engineering,

Mahaveer Institute of science and Technology.

Wireless Sensor Networks (WSN) are ascending as a promising development in perspective of their broad range of ranges in current, common with long, military and non services faculty ranges. In view of fiscal examinations, hub points are regularly direct and ease. They are as often as possible unattended, nevertheless, and are subsequently to encounter the real impacts of different sorts of novel ambushes. A dim opening strike is a champion amid the ordinary attacks and fills in as takes after. The opponent deal a core point and drop all bundles that are sent all the way through this interior point, realizing fragile data being surplus or flabby to be sent to the drop. Simultaneously, the structure settles on decision depending ahead the hub points' predictable data, the product is that the structure will be collide and burn and, more authentically settle on inedible kilter decision.

Introduction

Wireless sensor networks (WSN) are ascending as a promising development in perspective of their broad range of ranges in current, common with long, military and non services faculty ranges. In view of fiscal examinations, hub points are regularly direct and ease. They are as often as possible unattended, nevertheless, and are subsequently to encounter the real impacts of different sorts of novel ambushes. A dim opening strike is a champion amid the ordinary attacks and fills in as takes after. The opponent deal a core point and drop all bundles that are sent all the way through this interior point, realizing fragile data being surplus or flabby to be sent to the drop. Simultaneously, the structure settles on decision depending ahead the hub points' predictable data, the product is that the structure will be collide and burn and, more authentically settle on inedible kilter decision.

(1) The important point of a expectation course direct receipt of trust. In spite of, receiving the dependence of point is exceptionally worrisome, and how it might plausible to up till now

(2) Energy consumption: Since sensibility is given a defined in WSN. In most situations, the trust and distribution for high importance, more possible directly impact the structure operation.

SECURE AND TRUSTABLE ROUTING USING ACTIVE TRUST IN WSN

Mohammed Siddique ¹

Assistant Professor , Department of Computer Science and Engineering,

Mahaveer Institute of science and Technology

Abstract: Remote Sensor Networks (WSNs) are ascending as a promising development in perspective of their broad scope of usage. In current, common watching military and non-military facility targets. In view of fiscal examinations, the interior points, are regularly direct and ease. They are as often as possible unattended, nevertheless, and are subsequently subject to encumbers the evil impacts of different sorts of naval ambushes. A dim opening strike is a champion amid the moment, ordinary, attack, and fills in as takes after. The opponent deal a core point and drop all bundles that are centralized all the way through this interior point, realizing fragile data being surplus or flabby to be sent to the drop. Since the structure settle on decision depending ahead the hub points' predictable data, the product is that the structure will complete, solid, and busy and more authentically settle on incredible filter decision.

1. Introduction

There is a large quantity investigation on dim fissure ambush. Such examination usually focuses on the approach of avoiding weak openings. Another method does not need dull aperture in sequence early. In this idea, the tie together is segregated into N packets, which are forwarded to the end all the way through diverse courses (multi-way), yet the marker can move forward with T shares ($S_i \neq K_i$). Despite the consequences, a necessitate is that the descend may go more than the essential T share, next to these lines illustrating high essentialness procedure; such investigate can be seen in. One more preferential system that can pick up course achievement probability is the dependence course of attack. The key sector is to make a route by picking hub points with high trust in light of the way that such hub points have a superior prospect of coordinating productively, all along these lines. courses interrupted trusty can advance data to the end with a higher success prospect. In any case, the current trust-based course, measures stand up to some effort issue.

(1) The important point of a expectation course deficit in receipt of trust. In spite of, receiving the dependence of a hub point is exceptionally wearisome, and how it ought to be plausible is up 'til now.

(2) Energy competence. Since essentialness is spectacularly restricted in WSNs, in most investigate, the trust securing and distribution have high imperativeness procedure, which really impacts the structure lifetime.

(3) Security. As it is subtle malicious hub points, the defense-course is up 'til now a testing issue. In this method there are motionless issues meriting additional assessment. Security along with trust co-ordination through a dynamic acknowledgment course-tradition is given in this paper.



Mohammed Siddique
 Assistant Professor
 Department of Computer Science and Engineering
 Mahaveer Institute of Science and Technology
 P.O. Box 100, Gurgaon, India

Variants of Data Ethics in a current World: Where We Stand Now?

Author

Muneeb Ahmed
Associate Professor
CSE Dept
Mahaveer Institute of Science & Technology

Abstract

Information availability. Data ethics has become a new branch of ethics that looks at and evaluates moral issues that are associated with data. Data can include things such as curation, recording, generation, processing, storage, and use of data. It also includes algorithms (artificial intelligence, neural networks, machine learning) and other types of data and technologies like (IoT) innovation, programming hacking, and codes made by programmers. Ethical issues involving data may be great challenging than the ethical challenges of some other advanced technologies partly because data and data science are ubiquitous, having the potential to impact all aspects of life and partly because of their intrinsic complexity. We explore the nature of data (personal data, data ownership, consent and purpose of use, trust of data as well as of algorithms, and of those using the data, and matters of privacy and confidentiality).

Introduction



The automation of data measurement and collection methods, combined with the development of large capacity for data storage and the creation of highly sophisticated tools for analyzing and computing data often in real time is

A STUDY ON EYE DETECTION WITH MACHINE LEARNING

S. Arulmani Kumar

Assistant Professor, Computer Science Department

Maharaja Institute of Science and Technology


Abstract

The ability of eye detection is very important for a huge number of applications ranging from face recognition to eye tracking. In this paper, we recommend a new algorithm for eye detection that uses an anatomical model for features in the whole image. The algorithm consists of finding an eye and then the symmetry for detecting the position of eye. The result of this work is that the algorithm works on complex images without constraints on the background, skin color segmentation and so on. In our experiments, applied on the images of subjects with different eye colors, some of them wearing glasses, reveal the efficiency and robustness of the proposed algorithm.

Introduction

Automatic tracking of eyes and gaze direction is an attractive topic in computer vision with its application in biometric security, intelligent human-computer

interaction and human activity recognition system. Localization and learning set of eyes are operations required for solving problem in eye localization methods. The eyes are classified into five main categories. In general, eye detection methods describe by the surface which includes the iris and pupil contour and the vertical profile of the eyeball together. Feature-based image Methods which explore the distinctiveness of the human being eye to identify a set of distinctive features around the eyes. Appearance based methods which distinguish and follow eyes if a straight line subset of the characteristic appearance is characterized by the color distribution or finer response of the eye and its environment. These methods are self-determining of the authentic object of interest and are in principle capable of tracking other objects in addition eyes. Hybrid Models which aim at combining the compensation of different eye-models within a single system to overcome their respective shortcomings. Other Methods which employing temporal information and active light. In skin color pass through a set of user to tune face. The eye location is gated by gradient attribute edge and equivalent condition setting. It use the Haar like face appearance to identify the eye. This method can classifier with a few thousands of sample images of entity and construct a cascade of classifiers to distinguish eye quality.


MAHARAJA
INSTITUTE OF SCIENCE AND TECHNOLOGY
KANNUR



ANALYSIS OF DATA GOVERNANCE IN BLOCKCHAIN-BASED SYSTEMS

B. SEVA NAIK
 Research Scholar,
 Dept. of CSE,
 Rayalaseema University, Kurnool.
 Email:sevanaikb@gmail.com

M.SREENIVAS REDDY
 Assistant Professor
 Dept. of CSE,
 Mahaveer Institute Of Science &
 Technology, Hyderabad.
 Email:sreenivas.ml@gmail.com

ABSTRACT

In a blockchain-based system, data and the agreement-based process of recording and modifying them over distributed nodes are central to enabling the untrust multi-party transactions. Thus, completely understanding what and how the data are stored and manipulated finally determines the degree of usefulness, performance, and cost of a blockchain-based application. While blockchains enhance the quality of the data by providing a transparent, constant, and consistent data store, the technology also brings new challenges from a data management viewpoint. In this paper, we analyse blockchains from the perspective of a developer to highlight important concepts and considerations when incorporating a blockchain into a larger software system as a data store. The work focuses to increase the level of understanding of blockchain technology as a data store and to promote a methodical approach in applying it to large software systems. Firstly, we identify the common architectural layers of a typical software system with data stores and conceptualize each layer in blockchain terms. Secondly, we examine the placement and flow of data in blockchain-based applications. Thirdly, we explore data administration aspects for blockchains, especially as a distributed data store. Fourth one, we discuss the analytics of blockchain data and trustable data analytics enabled by blockchain. Finally, we examine the data governance issues in blockchains in terms of privacy and quality assurance.

KEYWORDS: Analytics, blockchain, databases, data governance, data handling, distributed data management, distributed databases, software architecture, transaction databases.

I. INTRODUCTION

The transformative capability of blockchain technology is often compared to that of the World Wide Web. In just a

few years, besides the initial cryptocurrency applications, the foundations of blockchain technology are now being utilized for many other classes of applications, such as asset management, medical/health, finance, banking, and insurance. From the viewpoint of such applications, blockchain enhances the quality of the data through transparency, immutability, and consistency [1]. However, the precise nature of blockchains that gives these benefits also brings new challenges from a data management perspective.

For example, in terms of the blockchain as a data store and a processing network, following open issues could be observed:

The data models used in blockchains vary from key value to document stores and are generally combined with "off-chain" data stores. Therefore, searching and retrieving heterogeneous data in blockchain-based systems takes hand-crafted and ad-hoc programming efforts, unlike the abstract and declarative query techniques in conventional databases. Considering the increasing demand for blockchain data analytics at scale, understanding how to efficiently access, integrate, and analyze data in this heterogeneous environment is essential.

The volume of data that blockchain system networks store and manage will only grow with time. However, many modern implementations show low throughput, low scalability, and high latency. Besides, to

ADAPTABLE SUBSPACE CLUSTERING COMBINE APPROPRIATE SELECTION AND K-MEANS CLUSTERING FRAMEWORK

J. MADHAVI

ASST. PROFESSOR, IIT

MAHATMA INSTITUTE OF SCIENCE & TECHNOLOGY

jajala.madhavi@gmail.com

K. CHIRUBABU

ASST. PROFESSOR, IIT

MAHATMA INSTITUTE OF SCIENCE & TECHNOLOGY

girdhika@gmail.com

ABSTRACT

Subspace clustering is a technique which finds groups within different subspaces (a selection of one or more dimensions) suitable to the nonexistence of class labels. unsupervised feature selection is much more complicated than supervised feature selection, concerning as an important computing prototype, cloud computing is to address big and distributed databases and rather simple computation. In this model, data mining is one of the most important and fundamental problems. A huge amount of data is generated by sensors and other smart devices. Data mining for these big data is essential in various applications. K means clustering is a difficult technique to group the similar data into the same clustering, and has been commonly used in data mining. However, it is still a challenge to the data containing a huge amount of noise, outliers and unnecessary features. A variation of K-means clustering algorithm, namely, adaptable subspace clustering incorporates feature selection and K-means clustering into a integrated framework, which can select the advanced features and improve the clustering performance. tentative results verify the presented method has more robust and better performance on standard databases compared to the existing approaches.

1. INTRODUCTION

In order to explain a new model for data exploitation, the locution "Big Data" has recently been emerging. These technologies are new in the field of Information

Technology, tend to emerge very often and with a massive publicity, at the end it takes some time to be re-organized. Big Data (also known as BD) is different in numerous ways such as volume (not big), velocity (cluster arrival), variability (quick changes), veracity (much commonness), and variety (diversity). Using orthodox propositions and procedures this Big Data is processed in partial arrangements. Even the technologies introduced to support Big Data contain different variety of presentations, which eventually make it tough to stimulate the creation of tools and applications to help include data from many sources. This analysis hence identifies possible areas for uniformity within the Big Data technology. Vastness, Complicated and massive datasets have various types of different and important features that are closely or similarity with "Big Data". To administer these datasets is troublesome with the conventional information processing frameworks. in addition, data storage, data transition, data visualization, data class penetrating, data aggregation, data resources,



SPEED UP OF SOFTWARE DEVELOPMENT USING OBJECT ORIENTED DESIGN PATTERNS

MR. PABBOJU RAMESH .

Professor, Department of C.S.E
Mahaveer Institute of Science and
Technology, Bandlaguda, Hyderabad, T.S.
pramesh.448@gmail.com

DR. R.NAKKEERAN, HOD.

Department of C.S.E
Mahaveer Institute of Science and
Technology, Bandlaguda, Hyderabad, T.S.
sudhandhiram64@gmail.com

Abstract: *Software quality is considered to be one of the most important concerns of software production teams. Software design patterns are a better solution for building large Object-Oriented (OO) software systems. They present well-tested and verified solutions to recurring difficulties that developers address. There are many advantages to using patterns. They can speed up the software development method. Design patterns combine learning to perform it more natural for designers to use well-known and strong designs developed from proficient experience. Simultaneously, software design patterns are too abstract and remain an art that has to be learned over time with experience. This study aims to propose a methodology for comparing design patterns to alternative designs with an analytical method. More specifically, the identification of such thresholds can become very useful for decision making during system design and refactoring.*

Keywords: *Design patterns, Object oriented programming, software performance analysis, Quality Attributes.*

I. INTRODUCTION

Design patterns idea is used to identify well-documented reusable solutions to common design problems. An appropriate variety of design patterns for use in software improvement have already been analyzed in the literature [1], [2]. For the realistic implementation of design patterns, a series of tools have been developed to discover

and formalize patterns [3]. These patterns and design tools make it easy to understand and create structures. The design model tools aid in the predictable and uninterrupted use of services and the user's assets. Each pattern is described with the help of a pattern template. These form templates reinforce a clear answer to regular inconvenience. Generally, templates are used to capture all sample elements and describe their problems, motivation, strategies, technology, applicable possibilities, responses, and examples. Gamma et al. [4] Also known as Gang of Four (GoF), well-known models suggested twenty-three versions of different types of design patterns. After that, exceptional authors suggested various unique design styles. GoF design patterns are broadly categorized into three categories, construct, structural, and behavioral. Design patterns can also be considered a unique form of program architecture [5]. An object-oriented (OO) model is currently strongly advocated for software development instead of standard and feature-oriented methodologies. The object-oriented method has distinct properties, such as encapsulation, polymorphism, and genetics, making the code reliable and

Efficient Traceable Authorization Search System for Secure Cloud Storage

SWAPNA MANDALA¹, HUMA QAMAR KHAN²

¹ Assistant Professor, Dept of CSE, Mahaveer Institute of Science and Technology, Hyderabad, TS, India, E-MAIL: swapnamandala@gmail.com

² PG Scholar, Dept of CSE, Mahaveer Institute of Science and Technology, Hyderabad, TS, India, E-MAIL: humaqk@gmail.com

ABSTRACT: Secure search over encrypted remote data is crucial in cloud computing to guarantee the data privacy and usability. To prevent unauthorized data usage, fine-grained access control is necessary in multi-user system. However, authorized user may intentionally leak the secret key for financial benefit. Thus, tracing and revoking the malicious user who abuses secret key needs to be solved imminently. In this paper, we propose an escrow free traceable attribute based multiple keywords subset search system with verifiable outsourced decryption (EF-TAMKS-VOD). The key escrow free mechanism could effectively prevent the key generation centre (KGC) from unscrupulously searching and decrypting all encrypted files of users. Also, the decryption process only requires ultra lightweight computation, which is a desirable feature for energy-limited devices. In addition, efficient user revocation is enabled after the malicious user is figured out. Moreover, the proposed system is able to support flexible number of attributes rather than polynomial bounded. Flexible multiple keyword subset search pattern is realized, and the change of the query keywords order does not affect the search result. Security analysis indicates that EF-TAMKS-VOD is provably secure. Efficiency analysis and experimental results show that EF-TAMKS-VOD improves the efficiency and greatly reduces the computation overhead of users' terminals.

Keywords: Cloud computing, key generation centre (KGC), data privacy, and Multi-user system.

I. INTRODUCTION: With the development of new computing paradigm, cloud computing becomes the most notable one, which provides convenient, on-demand services from a shared pool of configurable 3 computing resources. Therefore, an increasing number of companies and individuals prefer to

outsource their data storage to cloud server. Despite the tremendous economic and technical advantages, unpredictable security and privacy concerns become the most prominent problem that hinders the widespread adoption of data storage in public cloud infrastructure. Encryption is a fundamental method to protect data privacy in remote storage. However, how to effectively execute keyword search for plain text becomes difficult for encrypted data due to the unreadability of cipher text. Searchable encryption provides mechanism to enable keyword search over encrypted data. For the file sharing system, such as multi-owner multiuser scenario, fine-grained search 4 authorizations are a desirable function for the data owners to share their private data with other authorized user. However, most of the available systems require the user to perform a large amount of complex bilinear pairing operations. These overwhelmed computations become a heavy burden for user's terminal, which is especially serious for energy constrained devices. The outsourced decryption method allows user to recover the message with ultra lightweight decryption. However, the cloud server might return wrong half-decrypted information as a result of malicious attack or system malfunction. Thus, it is an important issue to guarantee the correctness of out sourced decryption in public key encryption with keyword search (PEKS) system.

The authorized entities may illegally leak their secret key to a third party for profits. Suppose that a patient some day suddenly find out that a secret key corresponding his electronic medical data is sold on e-Bay. Such despicable behavior seriously threatens the patient's data privacy. Even worse, if the private electronic health data that contain serious health disease is 2 abused by the insurance company or the

Crypt Cloud-: Secure and Expressive Data Access Control for Cloud Storage

DR. R. NAKKEERAN¹, SHAIKHA FATIMA²

¹Professor and HOD, Dept of CSE, Manjeer Institute of Science and Technology, Hyderabad, TS, India.

E-MAIL: nakkeeranr@gmail.com

²PG Scholar, Dept of CSE, Manjeer Institute of Science and Technology, Hyderabad, TS, India. E-MAIL: shaiikhafatima201@gmail.com

ABSTRACT: Secure distributed storage which is a rising cloud administration is needed to ensure the classification of re-distributed information as in addition to give adequate information access to cloud clients whose information is out of physical control. Cipher text-Policy Attribute-Based Encryption (CP-ABE) is proved as one of the most encouraging strategies that might be utilized to verify the certification of the administration. Be that as it may, the utilization of CP-ABE may point at inadequate security threat which is shown as the abuse of access accreditation (for example removing rights due to the abuse 'noting or not' unscrutinizing highlight of CP-ABE. In this paper, we research the two primary instances of access modification abuse one is in the semi-believed operators side and the other is in favor of cloud client. To moderate the abuse, we propose the main responsible expert and revoking CP-ABE based distributed storage framework with white-box accountability and revoking, alluded to as CryptCloud-. We additionally present the security examination and further exhibit the utility of our framework through investigations.

KEYWORDS: Attribute-Based Encryption (CP-ABE), CryptCloud-, Secure distributed storage, protection.

INTRODUCTION: THE predominance of distributed computing may in a roundabout way brings about weakness to the secrecy of redistributed information what's more, the protection of cloud clients. A specific test here is on the best way to ensure that lone approved clients can pick up access to the information, which has been redistributed to cloud, at anyplace and whenever [3]. One innocent arrangement is to utilize encryption method on the

information processing transmitting to cloud. Be that as it may, as far as possible further information sharing also, preparing. This is soon the grounds that in information proprietor needs to download the needed information from cloud and further re-encode them for sharing assume the information proprietor has no neighborhood duplicates of the information. A fine-grained access control over scrambled information is alluring with regards to cloud registering [5]. Cipher-text-Policy Attribute-Based Encryption (CPABE) [15] might be a viable answer for certification the secrecy of information and give fine-grained access control here. In a CP-ABE based distributed storage framework, for instance, associations (e.g., a college, for example, the University of Texas at San Antonio) and people (e.g., understudies, personnel individuals and visiting researchers of the college) can first indicate get to arrangement over traits of a potential cloud client. Approved cloud clients at that point are allowed get to credentials (i.e., decoding keys) relating to their trait sets (e.g., understudy job, employee job, or guest job), which can be utilized to acquire access to the re-propriated information. As a heavy one-to-numerous encryption component, CP-ABE offers a solid strategy to ensure information put away in cloud, however additionally empowers fine-grained access authority over the information. As a rule, the current CP-ABE based cloud capacity frameworks neglect to consider the situation where access accreditation is abused. For example, a college conveys a CPABE based distributed storage framework to redistribute scrambled understudy information to cloud under some entrance approaches that are agreeable with the applicable information sharing and protection enactment (e.g., the government Family Educational Rights and

Efficient Traceable Authorization Search System for Secure Cloud Storage

SWAPNA MANDAL A¹, HUMA QAMAR KHAN²

¹Assistant Professor, Dept of CSE, Mahaveer Institute of Science and Technology, Hyderabad, TS, India, E-MAIL: swapnamandal@gmail.com

²PG Scholar, Dept of CSE, Mahaveer Institute of Science and Technology, Hyderabad, TS, India, E-MAIL: humaqk@gmail.com

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outsource their data storage to cloud server. Despite the tremendous economic and technical advantages, unpredictable security and privacy concerns become the most prominent problem that hinders the widespread adoption of data storage in public cloud infrastructure. Encryption is a fundamental method to protect data privacy in remote storage. However, how to effectively execute keyword search for plain text becomes difficult for encrypted data due to the unreadability of cipher text. Searchable encryption provides mechanism to enable keyword search over encrypted data. For the file sharing system, such as multi-owner multiuser scenario, fine-grained search & authorizations are a desirable function for the data owners to share their private data with other authorized user. However, most of the available systems require the user to perform a large amount of complex bilinear pairing operations. These overwhelmed computations become a heavy burden for user's terminal, which is especially serious for energy constrained devices. The outsourced decryption method allows user to recover the message with ultra lightweight decryption. However, the cloud server might return wrong half-decrypted information as a result of malicious attack or system malfunction. Thus, it is an important issue to guarantee the correctness of out sourced decryption in public key encryption with keyword search (PEKS) system.

The authorized entities may illegally leak their secret key to a third party for profits. Suppose that a patient some day suddenly find out that a secret key corresponding his electronic medical data is sold on e-Bay. Such despicable behavior seriously threatens the patient's data privacy. Even worse, if the private electronic health data that contain serious health disease is abused by the insurance company or the

ENERGY EFFICIENT LINK-DELAY AWARE ROUTING IN WIRELESS SENSOR NETWORKS

SWAPNA MANDALA¹, SYEDA SALWA ANZER²

¹ Assistant Professor, Dept of CSE, Mahaveer Institute of Science and Technology Hyderabad, TS, India, E-MAIL: swapnamandala@gmail.com

² PG Scholar, Dept of CSE, Mahaveer Institute of Science and Technology Hyderabad, TS, India
E-MAIL: syeda.salwa7003@gmail.com

ABSTRACT: This paper investigates the problem of energy consumption in wireless sensor networks. Wireless sensor nodes deployed in harsh environment where the conditions change drastically suffer from sudden changes in link quality and node status. The end-to-end delay of each sensor node varies due to the variation of link quality and node status. On the other hand, the sensor nodes are supplied with limited energy and it is a great concern to extend the network lifetime. To cope with those problems, this paper proposes a novel and simple routing metric, predicted remaining deliveries (PRD), combining parameters, including the residual energy, link quality, end-to-end delay, and distance together to achieve better network performance. PRD assigns weights to individual links as well as end-to-end delay, so as to reflect the node status in the long run of the network. Large-scale simulation results demonstrate that PRD performs better than the widely used ETX metric as well as other two metrics devised recently in terms of energy consumption and end-to-end delay, while guaranteeing packet delivery ratio.

KEYWORDS: predicted remaining deliveries (PRD), Energy, wireless sensor, Routing.

INTRODUCTION: WIRELESS sensor networks have attracted great attention due to their various potential applications in the area of forest fire detection, transportation and industrial automation, etc [1]. Generally, sensor nodes are deployed in a specific region and cannot move after deployed. The main task of the sensor nodes is to periodically sense the environment and transmit the information to the data center known as the sink. Sensor nodes are usually battery-powered, and it is difficult to replace or recharge the battery. Due to the limited energy, sensor nodes drain their energy quickly, leading to the sensing area uncovered. Therefore, energy conservation becomes a critical concern in WSNs. In recent years, many energy-efficient techniques for wireless sensor networks have been developed to extend the network lifetime, including duty-cycle scheduling [2], medium access control techniques [3] and compressive sensing [4]. Previous studies demonstrate that the communication consumes most of the energy, and transmitting information takes about two thirds of its total energy consumption, while the count of transmissions depends to a great extent on the routing strategy [5]. In other words, an energy efficient routing protocol helps extraordinarily to save energy and

Efficient Retrieval Over Documents Encrypted by Attributes in Cloud Computing

SWAPNA MANDALA¹, NEETU²

¹ Assistant Professor, Dept of CSE, Mahaveer Institute of Science and Technology Hyderabad, TS, India, E-MAIL: swapnamandala@gmail.com

² PG Scholar, Dept of CSE, Mahaveer Institute of Science and Technology Hyderabad, TS, India, E-MAIL: neetunachta57@gmail.com

ABSTRACT: Secure document storage and retrieval is one of the hottest research directions in cloud computing. Though many searchable encryption schemes have been proposed, few of them support efficient retrieval over the documents which are encrypted based on their attributes. In this paper, a hierarchical attribute-based encryption scheme is first designed for a document collection. A set of documents can be encrypted together if they share an integrated access structure. Compared with the ciphertext-policy attribute-based encryption (CP-ABE) schemes, both the ciphertext storage space and time costs of encryption/decryption are saved. Then, an index structure named attribute-based retrieval features (ARF) tree is constructed for the document collection based on the TF-IDF model and the documents' attributes. A depth-first search algorithm for the ARF tree is designed to improve the search efficiency which can be further improved by parallel computing. Except for the document collections, our scheme can be also applied to other datasets by modifying the ARF tree slightly. A thorough analysis and a series of experiments are performed to illustrate the security and efficiency of the proposed scheme.

KEYWORDS: attribute based retrieval features (ARF), ciphertext-policy attribute-based encryption (CP-ABE), Secure encryption/decryption

INTRODUCTION: MORE and more people and enterprises are motivated to outsource their local document management systems to the cloud which is a promising information technique (IT) to process the explosive expanding of data [1]. Cloud computing can collect and reorganize a huge amount of IT resources and apparently, the cloud servers can provide more secure, flexible, various, economic and personalized services compared with the local servers. Despite the advantages of cloud services, leaking the sensitive information, such as personal information, company financial data and government documents, to the public is a big threat to the data owners. In addition, to make full use of the data on the cloud, the data users need to access them flexibly and efficiently. Consequently, a huge challenge of outsourcing the data to the cloud is how to protect the confidentiality of the data properly while maintaining their search ability. An intuitive approach is encrypting the documents first and then outsourcing the encrypted documents to the cloud. A large number of searchable document encryption schemes have been

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Abstracts of the Proceedings of the Annual Meeting of the American Society of Hospital Administrators, 1970. The meeting was held in New Orleans, Louisiana, from October 15-19, 1970. The theme of the meeting was "The Hospital in the 1970s: A New Era of Growth and Change." The program included sessions on hospital administration, medical education, and health care delivery. The following are abstracts of the papers presented at the meeting.

ABSTRACTS

Abstract 1: The role of the hospital administrator in the 1970s. The hospital administrator is no longer just a manager of a large organization. He is now a leader of a community. He must be able to communicate with the public, to understand the needs of the community, and to be able to make decisions that will benefit the community. The hospital administrator must be able to work with the community and to be able to make decisions that will benefit the community.

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Essentially the same action needs to structure the national FHEO, such as prescriptions for a prolonged period of time to satisfy certain administrative conditions in hospital organizations in FHEO activities. With the return of FHEO, however, from a health care perspective, the cost of doing FHEO in practice increases in practice. Actually, the change costs can be reduced through other developments when the





RECENT ADVANCEMENT AND ROLE OF SEARCH ENGINES IN INFORMATION RETRIEVAL SYSTEM

SWAPNA MANDALA

M.Tech (Phd) Dept of CSE,
 Mahaveer Institute of Science &
 Technology, Hyderabad.
 swapnamandala@gmail.com

G.SOUJANYA

M.Tech Dept of CSE,
 Mahaveer Institute of Science &
 Technology, Hyderabad
 ysoujil2@gmail.com

Abstract:

In recent advancement growth of information is ubiquitous in nature and can be accessed anywhere by the user and needed information is provided according to the query search is the main objective in information Retrieval system. The source of information accessed can be in any form Text, audio and video etc. In the information retrieval system the information accessed is in the form of Text based retrieval, speech retrieval system and Image Retrieval system. However user can get needed information retrieval of information accordingly by using Text, speech and image search criteria. In information Retrieval System text based retrieval is more reliable than speech retrieval system, where the accuracy rate in terms of precision and recall are more effective in text based retrieval system compared to speech and image retrieval system.

INTRODUCTION

A large number of information accessed in the form of audio and video forms the base for Multimedia Information Retrieval System (MIRS). Most of MIRS today is monolithic or only using one media format like Google1 for text search, tineye2 for image search, youtube3 for video search or 4shared4 for music. The main objective is to retrieve the relevant information for query search of user in any of the form of Retrieval.

The distinct information on the internet provides the user wide options to search the query in different forms of search in information retrieval system. The scope for search engines to Recognize the user

query search in which user learn and provide needed information which is relevant information according to the user search process need which hits on the different clusters to Retrieve the relevant data. The measure of retrieval is correlated by the rate of precision and recall level. The information retrieval capabilities also provide various search capabilities for the user to improve the relevant data retrieval. The search to process when correlated with text and speech retrieval system requisite much to develop. This paper presents the innovative approach for speech retrieval by the modern search engines with accuracy and reduced storage processing time.

MACHINE LEARNING

Search engines, medical diagnosis, detecting credit card fraud, stock market analysis, classifying DNA sequences, speech and handwriting recognition, object recognition in computer vision etc.

Some machine learning systems attempt to eliminate the need for human intuition in the analysis of the data, while others adopt a collaborative approach between human and machine. Human intuition cannot be entirely eliminated since the designer of the system must specify how the data are to be represented and what mechanisms will be used to search the characterization of the data. Machine



ONLINE VOTING USING BLUETOOTH ENABLED MOBILE PHONE

A.SARALA DEVI

Associate Professor

Mahaveer Institute Of Science and
Technology

saraladevia14@gmail.com

MUNEER AHMED

Associate Professor

Mahaveer Institute Of Science and
Technology

muneernrpt@gmail.com

Abstract

In the ever changing world of computing in mobile, traditional ways of doing survey has been greatly overtaken by mobile voting. Traditional methods of carrying out surveys is tedious and time consuming while mobile voting emerges as a new and exciting form of getting feedback effectively and efficiently. Mobile voting can be done by the use of wireless technologies. This study examines the application of an interactive voting system with mobile. The system uses the Bluetooth technology to cast votes from bluetooth enabled mobile phones and display instant results of votes graphically. The case study stresses on the motivation for this type of paperless, pollution free system which conforms to the "Mauritius Ile Durable" project. It also describes the design framework of the system and the main functionalities that were implemented. The case study also highlights the different stages throughout the development process, starting from the design, and implementation until the testing of the system. It focuses on important issues in order to provide a secure, high performance and easy to use system. The study ends with an evaluation of the practical implementation of this type of system.

1. INTRODUCTION

The popularity of the mobile voting technology is increasing worldwide, however it is relatively unfamiliar in the public. Government has invested massively in the ICT sector over the past few years. The Government's vision was to make ICT as the fifth pillar of the economy and transform Government into a regional hub. Nowadays almost every one owns and using a mobile phone. Thus with the increase in

mobile phones, the probability to reach people through their mobile phones is higher. In this study, the focus is to provide Government a system where they can voice out their opinions about government related issues. This can be done by allowing the public to participate in voting using their mobile phones. The rationale behind is to sever ties with the paper and pencil voting and at the same time provide accurate, rich and faster information for deeper insight which was not feasible with the traditional methods. Several studies have been done on this type of voting systems.

2. SYSTEM ARCHITECTURE

According to research done, Nick Day (Nick Day, 2010) proposed a system for users to vote using their mobile phones. The system architecture consisted of:

Mobile client application
Server application
Database back-end and web-based administration tool
Graphical front-end
Based on this proposed architecture and recommendations given, the interactive Bluetooth public voting system was modeled. Modeling of the system required several design considerations in term of:

Performance:

Mobile phones have limited resources such as memory, processing power and screen size. The mobile client would therefore be a light-weight application

MULTI-ASCENDANCY DATA IN PUBLIC CLOUD-STORAGE USING ATTRIBUTE BASED ENCRYPTION WITH TRUSTED SHARING

**MOHAMMED
SIDDIQUE**

Asst. Prof, Dept of CSE
Mahaveer Institute of
Science and Technology

G SANTOSH KUMAR

Asst. Prof. Dept of CSE
Mahaveer Institute of
Science and Technology

K SUDHAKAR

Asst. Prof. Dept of CSE
Mahaveer Institute of
Science and Technology

ABSTRACT

Attribute-predicated-Encryption (ABE) is viewed as a capable crypto-graphic foremost execute to assurance information proprietor's instant control over their information in broad daylight dispersed storage. The prior A-B-E plans embrace just a single ability to keep up the whole possessions set, which can bring a private point blockage on both security and completing. As a result, some multi-domination tactics are planned, in which diverse rising elements disjointedly keep up disjoint excellence subsets. However, the single-point holdup subject stays unsettled. In T-MACS, profiting by (T; N) { T - anyone Ascendancy, N- no of increasing entities} limit sharing, the ace-key can be mutual among different ascendant-elements, and a licit-utilize can cause his secret-key by interfacing with any T ascendant-attributes. Security and implementation examination comes about reveal that T-MACS is not just definite secluded when not as much as T ascendant-substances are bargained, however strong when no not as much as T ascendant-elements are active in the framework. Furthermore, by successfully cumulating the predictable multi-domination scheme with T-MACS, we construct a successful procedure to ensure security among data in public-cloud-storage.

KEYWORDS- Cloud computing, Attribute Based Encryption, Cryptography, decryption, Master-key, Secret-Key, Key-Generation, Data-Owner.

INTRODUCTION

Now a day's cloud computing is an smartly urbanized knowledge to accumulate data from number of patron. Cloud computing

allows users to distantly store their data over cloud. Remote support system is the progressive method which minimizes the cost of implementing more memory in an association. It helps administration agencies and enterprises to reduce monetary transparency of data supervision. They can extract their data backups remotely to third party cloud-storage providers than maintaining their own data centers. Instead they can store their data to the cloud and archive data to avoid in order loss in case of system letdown like hardware or software failures. Cloud-storage space is more flexible, but security and privacy are obtainable for the outsourced data becomes a grave anxiety. To achieve secure data transaction in cloud, apposite cryptography method is used. The data proprietor must after encryption of the file, store to the cloud. If a third individual downloads the file, they can sight the documentation if they had the key which is used to decrypt the encrypted file. To prevail over the difficulty Cloud computing is one of the rising technologies, which contains enormous open dispersed system. It is significant to defend the data and isolation of user. Attribute-based Encryption is one of the nearly all appropriate schemes for data admittance control in public clouds for it can ensures data owners straight manage over data and



A NOVEL FOR ANALYZING AND RECOGNITION OF TWITTER ACCOUNTS

R.NAVEEN KUMAR
Asst.Prof. Dept of CSE.
Mahaveer Institute of Science and
Technology

N.ASHWAN KUMAR
Asst.Prof. Dept of CSE.
Mahaveer Institute of Science and
Technology

ABSTRACT

Twitter is a new web-appliance in performance twofold roles of on-line social-networking and micro blogging. We have premeditated the difficulty of computerization by bots and cyborgs on Twitter. As a accepted web-application, Twitter has turn out to be a sole proposal for information distribution with a huge user-base. However, its reputation and very unlock nature have made twitter a very attractive target for misuse by robotic programs, i.e., bots. The problem of bots on Twitter is additional complex by the key role that computerization plays in everyday Twitter usage. Based on the data, we have recognized features that can distinguish humans, bots, and cyborgs on Twitter. valid bots generate a large amount of compassionate tweets deliver news and updating feeds, while malicious bots extend spam or malicious contents. More fascinatingly, in the middle between human and bot, there has emerged cyborg referred to either bot -assisted human or human-assisted bot. To carry users in identifying who they are interacting with, this paper focus on the categorization of human, bot and cy-borg accounts on Twitter.

INTRODUCTION

TWITTER is a accepted online social net-working and micro-blogging tool, which was released in 2006. Remarkable difficulty is its distinguishing feature. Its district interacts via publishing text-based posts, recognized as tweets. The tweet size is limited to 140 characters. Hash tag, namely words or phrases prefixed with a # symbol, can collection tweets by issue. For example, #Justin Bieber and #Women's World Cup are the two trending hash-tags on Twitter in 2011. Pictogram @ followed by a username in a tweet enables the unswerving deliverance of the tweet to that user. contrasting most online social net-working sites (i.e., Facebook and MySpace), Twitter's user alliance is intended at and consists of two ends, associate and admirer. In the case

where the user A adds B as a friend. A is a admirer of B while B is a friend of A. In Twitter terms, A follows B (namely, the following relationship is unidirectional from A to B). B can also add A as his friend (namely, following back or recurring the follow), but is not essential. When A and B follow each other, the association becomes bi-directional. From the perspective of in sequence flow, tweets flow from the source (author) to subscribers (followers).

The characterization of spam in this paper is dispersion malicious, phishing, or spontaneous commercial content in tweets. These bots erratically add users as their friends, expecting a few users to follow back. In this way, spam tweets posted by bots exhibit on users' home-pages. Enticed by the pleasing text contented, some users may click on links and get redirected to spam or malicious sites. If human users are enclosed by malevolent bots and spam tweets, their chirping familiarity deteriorates, and ultimately the whole Twitter population will be hurt. In the paper, we first conduct a series of dimensions to distinguish the difference between human, bot, and cyborg in terms of tweeting behavior, tweet content, and account properties. By crawling Twitter, we accumulate over 500,000 users and more than 40 million tweets posted by them. Then, we achieve a comprehensive data analysis, and locate asset of helpful features to categorize users into the three classes.

A FEW CHIRPS ABOUT TWITTER

Online social ~~networks~~ (OSNs) have emerged recently as the most popular



ANALYSIS OF DATA GOVERNANCE IN BLOCKCHAIN-BASED SYSTEMS

B. SEVA NAIK

Research Scholar,

Dept. of CSE,

Rayalaseema University, Kurmool,

Email: sevanaikb@gmail.com

M.SREENIVAS REDDY

Assistant Professor

Dept. of CSE,

Mahaveer Institute Of Science &
Technology, Hyderabad.

Email: sreenivas.ml@gmail.com

ABSTRACT

In a blockchain-based system data and the agreement-based process of recording and modifying them over distributed nodes are central to enabling the untrust multi party transactions. Thus, complete understanding what and how the data are stored and manipulated finally determines the degree of usefulness, performance, and cost of a blockchain-based application. While blockchains enhance the quality of the data by providing a transparent, unaltered and consistent data store, the technology also brings new challenges from a data management viewpoint. In this paper, we analyse blockchains from the perspective of a developer to highlight important concepts and considerations when incorporating a blockchain into a larger software system as a data store. The work focuses to increase the level of understanding of blockchain technology as a data store and to promote a methodical approach in applying it to large software systems. Firstly, we identify the common architectural layers of a typical software system with data stores and conceptualize each layer in blockchain terms. Secondly, we examine the placement and flow of data in blockchain-based applications. Thirdly, we explore data administration aspects for blockchains, especially as a distributed data store. Fourth one, we discuss the analytics of blockchain data and trustable data analytics enabled by blockchain. Finally, we examine the data governance issues in blockchains in terms of privacy and quality assurance.

KEYWORDS: Analytics, blockchain, databases, data governance, data handling, distributed data management, distributed databases, software architecture, transaction databases.

1. INTRODUCTION

The transformative capability of blockchain technology is often compared to that of the World Wide Web. In just a

few years, besides the initial cryptocurrency applications, the foundations of blockchain technology are now being utilized for many other classes of applications, such as asset management, medical health, finance, banking, and insurance. From the viewpoint of such applications, blockchain enhances the quality of the data through transparency, immutability, and consistency [1]. However, the precise nature of blockchains that gives these benefits also brings new challenges from a data management perspective.

For example, in terms of the blockchain as a datastore and a processing network, following open issues could be observed. The data models used in blockchains vary from key value to document stores and are generally combined with "off-chain" data stores. Therefore, searching and retrieving heterogeneous data in blockchain-based systems takes hand-crafted and ad-hoc programming efforts, unlike the abstract and declarative query techniques in conventional databases. Considering the increasing demand for blockchain data analytics at scale, understanding how to efficiently access, integrate, and analyze data in this heterogeneous environment is essential.

The volume of data that blockchain system networks store and manage will only grow with time. However, many modern implementations show low throughput, low scalability, and high latency. Besides, to



ADAPTABLE SUBSPACE CLUSTERING COMBINE APPROPRIATE SELECTION AND K-MEANS CLUSTERING FRAMEWORK

J.MADHAVI
 ASST PROFESSOR ,CSE
 MAHAVEER INSTITUTE OF SCIENCE &
 TECHNOLOGY
jajala.madhavi@gmail.com

K GIRI BABU
 ASST PROFESSOR ,CSE
 MAHAVEER INSTITUTE OF SCIENCE &
 TECHNOLOGY
girik019@gmail.com

ABSTRACT

Subspace clustering is a technique which finds groups within different subspaces (a selection of one or more dimensions), suitable to the nonexistence of class labels, unsupervised feature selection is much more complicated than supervised feature selection, concerning as an important computing prototype, cloud computing is to address big and distributed databases and rather simple computation. In this model, data mining is one of the most important and fundamental problems. A huge amount of data is generated by sensors and other smart devices. Data mining for these big data is essential in various applications. K-means clustering is a difficult technique to group the similar data into the same clustering, and has been commonly used in data mining. However, it is still a challenge to the data containing a huge amount of noise, outliers and unnecessary features. A variation of K-means clustering algorithm, namely, adaptable subspace clustering, incorporates feature selection and K-means clustering into a integrated framework, which can select the advanced features and improve the clustering performance. tentative results verify the presented method has more robust and better performance on standard databases compared to the existing approaches.

INTRODUCTION

In order to explain a new model for data exploitation, the locution “Big Data” has recently been emerging. These technologies are new in the field of Information

Technology, tend to emerge very often and with a massive publicity, at the end it takes some time to be recognized. Big Data (also known as BD) is different in numerous ways such as volume (too big), velocity (faster arrival) variability (quick changes), veracity (much commotion), and variety (diversity). Using orthodox propositions and procedures this Big Data is processed in partial arrangements. Even the technologies introduced to support Big Data contain different variety of presentations, which eventually make it tough to stimulate the creation of tools and applications to help include data from many sources. This analysis hence identifies possible areas for uniformity within the Big Data technology vastness. Complicated and massive datasets have various types of different and important features that are closely in similarity with “Big Data”. To administer these datasets is troublesome with the conventional information preparing frameworks. in addition, data storage, data transition, data visualization, data penetrating, data analysis, data security,

ANALYSIS ON GRAPHICAL PASSWORD AUTHENTICATION TECHNIQUES

M.SRIVIDYA

Asst. Prof, Dept of CSE,
Mahaveer Institute of Science and
Technology
reddy.srividya@gmail.com

G.MANASA

Asst. Prof, Dept of CSE,
Mahaveer Institute of Science and
Technology
manasa.587@gmail.com

Abstract: Nowadays, user authentication is one of the important topics in information security. Passwords are the most commonly used method for identifying users in computer and communication systems. Authentication is process of determining whether someone or something is, in fact who or what to be declared. For authentication mostly textual passwords are used. Strong text-based password schemes could provide with certain degree of security. Mostly passwords are strings of letters and digits, i.e., they are alpha-numeric. Such strong passwords are difficult to memorize often leads their owners to write them down on papers or even save them in a computer file, emails. Graphical passwords have emerged over the past decade as a technology that may change the way we authenticate to systems; it is a potential technology to replace typing passwords and remembering sophisticated password strategies. Graphical passwords utilize the human ability to remember images and thus have the potential to increase security since longer pass-words can be used, and will be remembered for a longer period of time. However graphical password is also vulnerable to various types of attacks. In this paper we present few trending techniques in graphical passwords and its advantages and disadvantages.

Keywords: textual passwords, authentication, graphical passwords, information security

INTRODUCTION

With increase speed, evolution of systems and applications, the push for a strong computer security is growing. The majority of the computer systems and applications are preserved with user identification, authentication and confidentiality. Main area of information

security is authentication, which the determination of whether user should be allowed access to given system or resource. Authentication is a process which provides and confirms the identity of a person. It is the basis for access control and user accountability. In this context, password is a common and widely authentication method. **Password** is a secure identifier that enables a user to access a secured resource. It is kept secret from unauthorized users, and those wish to gain access are tested and are approved or denied the access based on the password. In modern times, passwords are used to limit access to protect computer operating systems, mobile phones, others etc. A computer user may need passwords for many uses such as log in to personal accounts, accessing e-mail from servers, retrieving files, databases, networks, web sites, etc..A password is a basic security mechanism that consists of a secret pass phrase created using alphabetic, numeric, alphanumeric and symbolic characters, or a combination, these type of passwords are called textual passwords. The usage of textual passwords is not secured, because people created passwords are memorable (birthdates, phone numbers, repeated characters, choosing names of family members are used as weak passwords) and these passwords can easily guessable by the attackers. Therefore, strong



Data Mining: Techniques, Tools and its Challenges

Dr. Waheed Raza, Department of Computer Science, Government College University, Faisalabad

Professor & Head, Department of Computer Science & Engineering, Government College of Engineering and Technology,

Government College of Engineering and Technology, Faisalabad, Pakistan

Lecturer in Computer Science & Information, Department of Computer Science,

Government College of Education, Faisalabad, Pakistan

Abstract: Data warehouses are becoming a backbone when any organization moves with emerging information resources and its mining. Data mining is a process of extracting interesting patterns and knowledge from a previously unanalyzed potentially useful data sets for analytical processing. The various data mining techniques such as classification and prediction analysis used to find the useful new patterns and improve the performance of existing models. It helps to build a robust model which is used for decision making in every aspect of life. The pattern evolution due to the significance of the various applications domains. This paper provides the overview of data mining system related data mining approaches, tools and finally addresses with its challenges. It will describe the current and future trends, the various methods for resolution of its challenges.

Index Terms: Data Mining, Cleaning, Integration, Selection, Description analysis, Prediction analysis.

1. INTRODUCTION

The organizations transformed their business operations and operations along with various process & accounting systems or substitute of information systems which serve the user. Organization discovered that an effective alternative to this means need to access and analyze the data for finding scientific insights. These scientific insights need to lead the effective strategic decisions, identify the risks and opportunities or achieving competitive advantage. The data comes from many different sources that is a messy unstructured or unclean. The organizations need to aggregate a uniform table. During the data is analyzed which involves an analysis and reporting.

The evolution of data collection started with the management systems in early 1970s around database management system which came into existence with many features. The general use of data warehousing was in early 1980s as a response to low cost and high volume data storage. The noteworthy data warehousing first year in 1990 researchers are highlighted and popularity. The data mining was introduced in the 1990s, but evolution of data mining in the area of data warehousing with a long history.

In recent years data mining has focused with a great deal of attention in the software industry and society due to availability of enormous data and numerous need to extract useful information and knowledge. It can be used for wide range of applications such as credit analysis, customer retention, financial, production control, fraud detection and research evaluation. Data mining is viewed as a outcome of the natural evolution of information technology.

Data mining is the process of discovering information, pattern and correlations within the data sets & predict activities. Modern data mining is closely involved with data warehousing, statistical analysis, machine learning and artificial intelligence. The organizations use a wide range of data mining techniques to increase revenues, cost savings, improve the customer relationships and service time to achieve a competitive advantage.

The data mining has attracted tremendous benefits in the late 1980s. This research paper highlights the significance of data mining and its various techniques for future generation. The remaining part of paper organized hierarchically as follows. The Section describes the literature reviews of data mining system. Section 2 focuses on the taxonomy of data mining and sets involved in coverage discovery process. The Section 4 presents the various techniques and tools involved in data mining system. The various challenges discussed in the Section 5. Finally, conclusion and further extension covered in the Section 6 and ended with the acknowledgments in Section 7.

Dr. Waheed Raza
Government College University
Faisalabad, Pakistan

Security Classifications using Virtualization in Cloud Deployment Models

Seva Naik B¹, Dr. B. V. Ramana Murthy²

¹Research Scholar, Department of Computer Science,
Rayalaseema University, Kurnool.

²Research Supervisor, Department of Computer Science,
Rayalaseema University, Kurnool.

Abstract

Objectives: To identify the main challenges and security issues of virtualization in cloud computing environments. It reviews the alleviation techniques for improving the security of cloud virtualization systems. **Methods/ Statistical Analysis:** Virtualization is a fundamental technology for cloud computing, and for this reason, any cloud vulnerabilities and threats affect virtualization. In this study, the systematic literature review is performed to find out the vulnerabilities and risks of virtualization in cloud computing and to identify threats, and attacks result from those vulnerabilities. Furthermore, we discover and analyze the effective mitigation techniques that are used to protect, secure, and manage virtualization environments. **Findings:** Thirty vulnerabilities are identified, explained, and classified into six proposed classes. Furthermore, fifteen main virtualization threats and attacks are defined according to exploited vulnerabilities in a cloud environment. **Application/Improvements:** A set of common mitigation solutions are recognized and discovered to alleviate the virtualization security risks. These reviewed techniques are analyzed and evaluated according to five specified security criteria.


Keywords: Challenges, Cloud Computing, Security, Taxonomy, Virtualization

1. Introduction

Cloud computing has been developed to enable the Information Technology world for utilizing computer resources efficiently and more proficiently¹. The cloud users have an advantage of unlimited computing power available on demand, in which they can access and pay for services when need it. Users will be able to accomplish computing services without the need for any significant investment in information technology infrastructure². Cloud computing is an efficient way to increase the capacity dynamic scalability or add capabilities using virtualization resources, platform, infrastructure and software as service that can be accessed over the internet³. To improve the utilization of cloud resources we use Virtual Machines (VMs). The virtual machine is a virtual computer similar to a physical computer in which application or operating system can be installed and run⁴.

Virtualization is an innovative technology, which is significantly expanding in the Information Technology industry. It provides multiple logical resources on a single server. Various benefits that can be provided by the virtualization are hardware utilization, resources protection, remote access, and other resources. This technique gives organizations and people an opportunity to improve the use of hardware by increasing the number of tasks that one machine can handle.

Two significant benefits that can be provided by a virtual machine are resources sharing and isolation⁵. Traditionally, the physical machine dedicates available resources permanently to all applications that are running on the computer, and this may cause waste in some resources such as memory and storage space. Whereas, in the virtual environment, resources are shared among numerous VMs and entirely used on demand. Isolation means failure in any VM will not affect the performance


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Bandlaguda, HYDRABAD

The Complexity of Verification and Validation Testing in Component Based Software Engineering

Jogannagari Malla Reddy^{1*} and Kothuri Parashu Ramulu²

¹Dept. of Computer Science and Engineering, Indur Institute of Engineering and Technology, Siddipet, India

²Dept. of Computer Science, Rayalaseema University, Kurnool, India

*Corresponding Author: jmsdpt06@gmail.com, Tel: +91-94924-79708

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Abstract—There is a huge need of software professional to develop the better quality systems in rapid time to satisfy the customer needs. The component based technologies fulfil the achievement to make this possible. The modern systems have practically too complex behaviour. The complex systems developed with reusable components has many features such as lower costs and shortened development lifecycles. The component software development places the significant challenges like system integration and testing to build the software products. The verification and validation techniques are essential to ensure the software quality for component based producers. Accomplishing these techniques in the reusable component building is not a simple task. This paper focuses the various difficulties of these testing in various stages of component based software engineering.

Keywords—Requirement, Design, Construction, Deployment, Software Quality, Verification, Validation

I. INTRODUCTION

The software technology plays an important role from the past three decades making world as digital with its rapid emergent technology. The software is the youngest industry compared with other industries, but now it is nucleus for other industries. The industry demands quality products within short span of time and required functionality. The lack of quality leads the significant costs in time, budget and wastage human efforts for developer and unsatisfaction to the customer. The error tolerant systems can't fulfil the functional, non functional and domain requirements of the stake holder. The software industry investing 30-50% development cost on testing to making the systems as reliable.

The testing is most widely used technique to ensure the quality in the manufacture, electronics, communication and software industries where the innovative, redesign takes place to achieve the customer satisfaction and reach the market competitive nature. The software professional are paying more attention on testing in the areas such as control systems, communication systems, embedded systems and other relevant software paradigms

The software industry shifted from traditional software development to Component Based Software Development to develop the software systems in rapid manner with advanced

methods. It is an emerging technology that, strives to construct high quality software with minimum budget in the short span of time. The Component Based Software Development can build the complex systems with standard pre-built components using with reusable concept. The component based approach has significant success in many applications domains such as web based and desktop graphical applications. The components developed in open market for reuse that will be used in many different configurations and situations, many of them not foreseen at the development time. The component developers delivered as black boxes [1] without source code.

In the traditional software engineering, the verification and validation could be done with customer co-operation and entire code is visible. The verification and validation of Component Based Software systems becomes a little bit more complicated than the systems built using traditional methods. The verification and validation (V&V) is forefront of software testing and plays vital role for development of quality products. This paper highlights the state of art of verifications and validations techniques in Component Based Software Development and representing the future direction in the research domain.

The remaining part of the paper is organized into various sections. Section 2 focuses on the related work on verification and validation. Section 3 describes the various phases of Component Based Software Development. Section 4 illustrates the role of verification and validation

SUPPORTIVE SQL INTERFACE FOR WIRELESS AD HOC NETWORKS

Pabboju Ramesh¹

Associate Professor, Department of C.S.E.

Mahaveer Institute of Science and Technology, Bandlaguda, Hyderabad - 59

Abstract- We express the database community's impression of a SQL interface for data aggregation, which can be applied to ad-hoc wireless sensor networks. Here, we are showing group aggregations can be effectively processed where they reduce data duplication. Network Traffic. Based on these queries, we shown SQL Interface that can execute queries within ad-hoc sensor networks.

Keywords: optimization, SQL-Interface, Ad hoc networks.

1. INTRODUCTION

At UC Berkeley, researchers have developed small sensor devices called motes, and an operating system, called Tiny OS, that is especially suited to running on them. Motes are equipped with a radio, a processor, and a suite of sensors. TinyOS makes it possible to deploy ad-hoc networks of sensors that can locate each other and route data without any a priori knowledge of network topology.

As various groups around the country have begun to deploy large networks of sensors, a need has arisen for tools to collect and query data from these networks. Of particular interest are aggregates operations which summarize current sensor values in some or all of a sensor networks. For example given a dense network of thousands of sensors querying temperature, users want to know temperature patters in relatively large regions encompassing tens of sensors individual sensor readings are of little value.

Sensor networks are limited in external bandwidth, i.e. how much data they can deliver to an outside system. In many cases the externally available bandwidth is a small fraction of the aggregate internal bandwidth. Thus computing aggregates in network is also attractive from a network performance and longevity standpoint: extracting all data over all time from all sensors will consume large amounts of time and power as each individual sensor's data is independently routed through the network. Previous studies have shown that aggregation dramatically reduces the amount of data routed through the network, increasing throughput and extending the life of battery powered sensor networks as less load is placed on power hungry radios.

In this paper, we discuss the challenges associated with implementing the five basic database aggregated with grouping in adhoc networks of sensors. We show how our generic approach leads to a significant power savings.

Further, We show that sensor network queries can be structured as time series of aggregates, and how such queries adapt to the changing network structure. We have implemented early versions of these techniques and are in the process of experimentally validation them.

1.1 MOTES

These devices are equipped with a 4Mhz Atmel microprocessor with 512 bytes of RAM and 8KB of codespace, a 917 MHz RFM radio running at 10 KB OF CODE SPACE, A 917 mhz rfm RADIO RUNNING AT 10KB/S, AND 32KB EPROM. Current temperature options include light, temperature, magnetic field, acceleration, vibration, sound, power. The effective lifetime of the sensor is determined by its power supply. In, Motes we will use Tiny OS. TinyOS provides a number of services like simplifying the programs, process the capture data, transmitting radio messages over radio.

1.2 Ad-Hoc Sensor Networks.

Messages in the current generation of TinyOS are fixed size preprogrammed into sensors, by default, 30 byte messages are used. Each message type has a message id that distinguishes it from other types of messages. Sensor programmers write message id specific handlers that are invoked by Tiny OS when a message of the appropriate id is heard on the radio. Each sensor has a unique sensor id that distinguishes it from other sensors. All messages specify their recipient, allowing sensors to ignore messages not intended for them, although non-broadcast messages must still be received by all sensors within range -unintended recipients simply drop messages not addressed to them.

Given this brief primer on wireless sensor communication, we now show how sensors route data. The technique we adopt is to build a routing tree. We appoint one sensor to be the root. The root is the point from which the routing tree will be built, and upon which aggregated data will converge. Thus, the root is typically the sensor that interfaces the querying user to the rest of the network. The root broadcasts a message asking sensors to organize into a routing tree; in that message it specifies its own id and its level, or distance from the root, which is zero. Any sensor that hears this messages assigns its own id to be the level in the message plus one, if its current level is not already less than or equal to the level in the message. It also chooses the sender of the



Trusted Sharing for Multi-Authority data in Public Cloud Storage using ABE

Mohammed Siddique¹ & Syeda Asra²

¹M-Tech, Dept. of CSE, APPA Institute of Engineering and Technology, Vidya Nagar, Kalaburgi.

²Associate professor, Dept. of CSE, APPA Institute of Engineering and Technology, Vidya Nagar, Kalaburgi.

Abstract

Property predicated Encryption (ABE) is viewed as a promising cryptographic leading execute to guarantee information proprietors' immediate control over their information in broad daylight distributed storage. The prior ABE plans include just a single domination to keep up the entire property set, which can bring a solitary point bottleneck on both security and execution. Consequently, some multi-domination plans are proposed; in which various ascendant elements discretely keep up disjoint quality subsets. Nonetheless, the single-point bottleneck issue stays unsolved. In this paper, from another point of view, we lead a limit multi-power CP-ABE get to control conspire for open distributed storage, assigned TMACS, in which numerous ascendant substances together deal with a uniform quality set. In TMACS, profiting by $(t; n)$ { t - any one Ascendancy, n - no of Ascendant entities} limit mystery

sharing, the ace key can be shared among different ascendant elements, and a licit utilizer can cause his/her mystery key by interfacing with any t ascendant substances. Security and execution examination comes about demonstrate that TMACS is not just certain protected when not as much as t ascendant substances are bargained, however withal vigorous when no not as much as t ascendant elements are alive in the framework. Moreover, by effectively cumulating the conventional multi-domination conspire with TMACS, we build a half and half one, which slakes the situation of traits radiating from various ascendant elements and accomplishing security and framework level heartiness.

Key words: - CP-ABE, Threshold Secret Sharing, Multi-Authority, Public Cloud Storage, Access Control, Attributes-Based Encryption, Data Storage.



Parallel Message Minimizing Technique for Agent Based Cloud Service With Information Retrieval

K GIRIBABU¹, M VIJAYALAXMI², P VIGNESWARI³.

¹Assistant Professor, Dept of CSE, Mahaveer Institute of science and Technology, Hyderabad.

²Assistant Professor, Dept of CSE, Mahaveer Institute of science and Technology, Hyderabad.

³Assistant Professor, Dept of CSE, Mahaveer Institute of science and Technology, Hyderabad.

ABSTRACT: Information Retrieval (IR) Systems are important key players for every Internet user and there are many Information Retrieving frameworks and algorithms which are currently using or under development. As the technology trend is always changing and current industrial and business world is willing to emphasize on not only providing knowledge but also supporting service, Cloud Computing and Web Services become popular. Cloud Computing is Internet based system development in which large scalable computing resources are provided "as a service" over the Internet to users and has attracted more and more attention from industry and research community. Web Service plays important role in Service Oriented Computing (SOC) in World-Wide-Web and Cloud environment. Developing a Cloud Wide Information Retrieval System using Web Services can fill one blank of Cloud Environment. In this case, retrieving desired specific information from Web Services on Cloud Environment cannot be completed by single Web Service. So, there should be a way to build an Information Retrieval System based on a set of related Web Services in order to fulfill users' requests and provide desired services. To compose Web Services, Multi-Agent System can give great help. Agent systems are self-contained software programs embodying domain knowledge and having ability to act as a specific degree of independence to carry out actions needed to accomplish desired goals. Therefore, this paper mainly focuses on building a Web Services Based IR Multi-Agent System framework and Agent



K. Giribabu
MAHAVEER
INSTITUTE OF SCIENCE & TECHNOLOGY
Hyderabad, Hyd-500 005.

IMPLEMENTATION OF CAR PARKING SYSTEM USING ARDUINO AND IR SENSORS

Dr. K. Kanthi Kumar

Associate Professor, Department of ECE, Holy Mary Institute of Technology & Science
kkanthik@gmail.com

Mr. B. Karunaiah

Associate Professor, Department of ECE, Holy Mary Institute of Technology & Science

Abstract:

A car parking system is a process through which car parking can be done more efficiently and easily than manual method. The system will provide the user better services. The system counts the number of cars in the garage and checks if there's any vacancy. There's an entry and exit path. When vehicle enters, the display shows the number of cars inside. When any vehicle leaves, the count decreases and shown on display. If the garage is full, the display will show a message regarding that. This whole process includes the use of Arduino, Display and sonar. The sonar detects whether the vehicle entering or not. The main purpose is to produce a real-life solution to the car parking problem which the whole world is facing frequently. People usually roam around in the parking lots trying to find a suitable place to park in. To solve that problem, we have created the automatic car parking system, using open-source hardware, programmable sensors and the use of computers to provide an interface to understand the digital output produced.

Key words: car parking, garage, vacancy, Arduino

INTRODUCTION

As the population increased in the metropolitan cities, the usage of vehicles got increased. It causes problem for parking which leads to traffic congestion, driver frustration, and air pollution. When we visit the various public places like Shopping malls, multiplex cinema hall and hotels during the festival time or weekends it creates more parking problem. In the recent research found that a driver takes nearly 8 minutes to park his vehicle because he spends more time in searching the parking lot. This searching leads to 30 to 40 percent of traffic congestion. Here we going to see

how to reduce the parking problem. Automatic car parking using offerings are transforming cities by improving infrastructure, creating more efficient and cost-effective municipal services, enhancing public transportation, reducing traffic congestion, and keeping citizens safe and more engaged in the community. Car parking is an issue of significance both at the local and at the strategic level of planning. This project's main purpose is to produce a real-life solution to the car parking problem which the whole world is facing frequently. People usually roam around in the parking lots trying to find a suitable place to park in to solve that problem we have created the automatic car parking system, using an open-source hardware, programmable sensors and the use of computers to provide an interface to understand the digital output produced.

Due to rapid increase in the vehicles, there exists a problem for parking of vehicles. It leads to traffic congestion and also pollution. So, we have a need to maintain the vehicle park management in order to reduce the wastage of time. If we see in the larger cities when we visit the shopping malls or tourist places or any other commercial areas there arises a problem for parking of our vehicle. We have so many methods of parking systems such as using WSN, RFID methods. But the major



EFFICIENT SENSOR DATA TRANSMISSION TO THE IOT APPLICATIONS USING MQTT-SN AND MQTT

Mr. M.OBULAREDDY,
 Research scholar, Gitam (Deemed to be
 University), Vishakhapatnam
 moreddy2003@gmail.com

Mr. M.SRINU,
 Research Scholar, Osmania University,
 Hyderabad.
 srinumtech277@gmail.com

Abstract: *Internet of Things (IOT) Technology rapidly growing area and active research happening in different Layers of Internet Protocol Stacks. IOT stack have Physical layer & Data Link layer, Network Layer, Transport deposit and Application deposit Messaging protocols and Applications. Now IOT has many applications like Smart cities, Smart Homes, Environmental monitoring, Agricultural Application and Medical data transmission from remote places to expert doctors. Numbers of IOT Application etiquette (MQTT, MQTT-SN, COAP, XMPP, and HTTP) are available and implemented in rich resource Environments like good computing power and bandwidth. However, all Application etiquette is not appropriate under lossy wireless antenna complex environment. In IOT Environment consists of antenna Nodes, End Systems and related applications Latency and bandwidth problems exist between sensor node and End Systems in two tiers IOT Environment. To resolve this issue, we proposed Three Tier IOT Architecture; it consists of antenna Node, IOT Gateway /Fog Computing Node, End Systems and Applications. We contain discuss proposed flexible design, development and integration of IOT Gateway for different IOT applications using more efficient MQTT-SN and MQTT application messaging Protocols.*

KEYWORDS: IOT, MQTT, MQTT-SN, Wireshark, Node-Red, Arduino

I. INTRODUCTION

Wireless antenna complex is a group of distributed embedded devices (nodes) with the capabilities of sensing, processing and transmission of data through wireless communications to the application. WSN has come out seeing that a major research area which provides the interaction between the substantial globe and humankind. There have been various applications developed using WSN, such as environment

monitoring, Building monitoring, military systems, smart home etc. Traditional WSN complex is designed either as proprietary or non standard building monitoring, military Systems, smart home etc. Traditional WSN complex is designed either as proprietary or non standard application protocols. Current Wireless antenna complex application etiquette are not compatible to the wide spread Internet Application protocols. Various Applications messaging protocols like HTTP, MQTT, COAP, XMPP, DDS etc are designed, developed and deployed in the distributed computing environment. But this etiquette is not appropriate to loss wireless antenna complex due to constrained computing power and bandwidth. So it is essential that light weight IOT application messaging protocol for transportation of real time and non real time data to the IOT Applications has to be designed and developed. As per [1] MQTT- SN specifications are released for academic, explore addition to engineering uses. MQTT-SN is communication line Telemetry convey etiquette designed for antenna Networks. In this paper, MQTT-SN etiquette is designed with adaptability of loss WSN networks and is as much as compatible with MQTT. As per [2], theoretical IOT application messaging protocols are compared within conditions of protocol message over head, throughput and Bandwidth. The same as for each [3], MQTT-SN end to terminate excellence promise theoretical frame work is discussed. The declaration of the manuscript is seeing that tag along: Into Segment II IOT Architecture [Sensor Node, IOT Gateway,

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 SERVICE & TECHNOLOGY
 500 005

ANALYSIS OF VARIOUS REVERSIBLE LOGIC GATES USING MENTOR GRAPHICS TOOLS

K.VENKATESWARLU
ASST.PROFESSOR,
ECE,MIST

S.SOUJANYA
ASST.
PROFESSOR,ECE,MIST

Dr.JASPAL KUMAR
PROFESSOR &
HOD,ECE,MIST

Abstract: The rapid changes in VLSI industry continues to determine a smaller feature size, causing the mixing of many transistors on one piece of chip, as the transistors number on chip increases the power dissipation also increases. It is reduced by Logic gates with reversible technology. A one-to-one relation between inputs & outputs is realized[3] with the help of reversible logic property, all the inputs & outputs are often retrieved from one another. CMOS implementation of varied logic gates using reversible technology is proposed in this paper. Logic gates with reversible technology is becoming one among the most growing design technology having its uses in low-power CMOS, cryptography and nanotechnology[1]. The idea of Logic gates with reversible technology has become vital tool for turning out with economical digital circuits with low-power dissipation.

Research done in the paper aims to use the retrospective view of reversible logic to interrupt classic speed-power, this may optimize in terms of quantum cost, delay, power dissipation[2]. thanks to low power dissipation in computing reversible logic is a beautiful field of research in quantum and optical computing.

Conventional circuits are irreversible in nature and dissipate power for each bit loss in circuit. In this paper we discuss about some Logic gates with reversible technology like Feynman gate, Fredkin gate, Peres gate, Toffoli gate, TR gate. This paper is meant to design and implementation of Logic gates with reversible technology by using mentor graphics backend tools with 130nm technology to beat the Power loss of classic logic gates[4], it's been observed a big decrease in power dissipation, delay compared to classic CMOS logic.

Index Terms:- Logic gates with reversible technology, power dissipation, quantum cost, mentor graphics tool.

I. INTRODUCTION

The changing perspective has got a lot of attention over the years due to their ability to minimize the power supply which is a major requirement for VLSI power generation. Logic circuits with reversible technology have theoretically zero internal power dissipation, since they do not lose information.

Reversible computation doesn't require erasing any little bit of information [7]. The circuit actually operates in a reverse direction, allows generating the inputs from the outputs and consumes zero power [1]. It realizes the network connection of given gates with reversible technology and confirm that cost is low, where fan out and feedback aren't permitted [3].

A reversible gate is an n-bit function that connects every input vector to a unique output vector. Reversible computing also will lead in improving overall energy utilization of the design. Significant requirements in making circuits with reversible technology is to reduce gate volume, junk outputs, delays and quantum costs [7]. Any reversible circuit must be made with less number of

IMPLEMENTATION AND ANALYSIS OF CONVOLUTION ENCODER ON FIELD PROGRAMMABLE GATE ARRAY

PUJARI SRIDHAR

Research Scholar,
 Jain University, Bengaluru,
 Karnataka, India.
 Affiliation: Mist, Hyderabad
 sridharpujari1234@gmail.com

DR. C. J. BYRAREDDY

Professor Bit
 Bengaluru, Karnataka, India
 Affiliation: BIT, Bengaluru

Abstract:

In the latest and modern digital communication systems like Software Define Radio (SDR), convolutional encoder is an essential device as an efficient channel coding block in the transmitter and Viterbi decoder at the receiver. The Data transmission over the wireless channel is very much affected by interference, distortion and attenuation that reduces Signal strength there by affects the ratio of Signal to Noise (SNR) which is the main issue factor in communication and hampers the receiver's capacity to receive the transmitted data with minimal errors. Various techniques are there to detect the errors and these errors are corrected so as to limit the rate of occurrence of error (BER). Special channel coding methods called Forward error correction (FEC) which has the capability to encode the data before sending to the channel. Convolution encoder is an efficient coding technique which is used during transmission for space and wireless systems. The main essential feature of convolutional coding is that it can be adopted to a block of data or to a data stream. This paper briefs an architecture which reduces the silicon area complexity and encode processing time as compared to conventional methods. The Verilog coding for the proposed encoder is written, simulated and synthesized using Xilinx ISE version 14.7 tool

1. Introduction:

Communication systems plays a major role in our life, people use cell phones, satellites, internet and data transmission. All these systems are used in an environment with noise sources, also the

data might be transmitted for long distances. These effects could cause changes in data values causing data corruption and loss. To overcome this problem channel coding is used which enables to detect and correct the errors at the receiver by decoding using proper decoders such as Viterbi decoder. In channel coding technique, the redundancy bits are added so as to identify the errors occurred and correct them at the receiver successfully. The channel coding is divided into two main types Block codes and Convolutional codes. These codes are differentiated by the absence and the presence of memory in the encoders. In many communication systems, the message symbol bits arrive serially rather than in large blocks, so that the usage of a buffer leads to adding extra hardware.

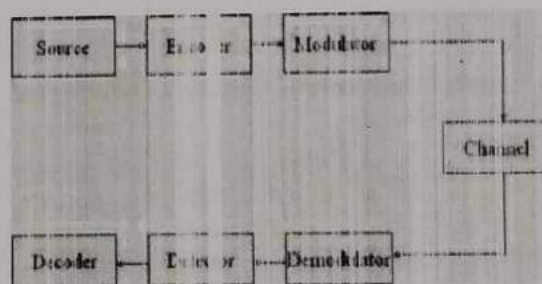


Fig.1.1 Basic block diagram of digital communication system with encoder (convolution encoder) and decoder



AN APPRAISAL OF DIFFERENT TECHNIQUES OF DATA AGGREGATION IN WIRELESS SENSOR NETWORKS

M.D.Raju,

Associate Professor, Dept. of Electronics & Communication engineering,
 Mahaveer Institute of Science and Technology, Hyderabad

Abstract : *Wireless sensor network (WSN) associated with a group of wireless sensor nodes using a high-speed network connection. All deployed sensor nodes will be used to efficiently detect and process data on the network. The importance of data aggregation is to eliminate redundant data that increases the life of the network; otherwise, they expand or retain the power of the sensor nodes to aggregate data into the WSN. Hence, it is need to add the data of the discovered information in high quality, and this is achieved through data aggregation. In this document, you will look at the data aggregation approaches that WSN call centralized, tree, clustered, and intranet. Also review the comparison of several approaches to the aggregation of data latency, data accuracy, computational overhead, scalability, redundancy, and with the consumption of energy.*

Key words: *wireless sensor network (WSN), data aggregation, centralized, tree-like, cluster and intranet approaches.*

INTRODUCTION

A wireless sensor network (WSN) has wireless sensor nodes that are randomly distributed or spatially deployed in a real- world environment, as shown in Figure 1. Each node is assigned an initial amount of energy and bandwidth to the network. All nodes (sensors and receivers) in the network are assumed to be static or mobile, and the sensor nodes calculate the path through the network. Sensor nodes are used to be able to detect and transmit data through nodes in the network. Modern advances in microelectronics and telecommunications technology have already led to the creation of small detection nodes that are capable of periodically collecting data from their respective environments. The collected data is processed by a single processor element connected, wh

ich transmits through the communication network among themselves. The placement of sensor nodes depends on the application [1] [2]. Sensors periodically detect data, process it and transmit it to the base station. The frequency of reporting data sensors as a rule, providing data dependent on the specific application.

There are several issues that affect the structure and performance of the WSN, namely 1) hardware and operating system DSNs, 2) communication characteristics, 3) access schemes between, 4) implementation, 5) localization, 6) synchronization, 7) calibration, 8) network layer problems, 9) transport layer problems, 10) data aggregation and distribution, 11) database and query orientation, 12) architecture, 13) programming model for sensor networks, 14) issues an intermediate software DSN, 15), communication and computation based on QoS, 16) control problem resiliency, 17) routing problems, 18) the problem of awareness of context sensor distributed networks, 19) scalability, 20) authentication problems, 21) key management problems in DSN, 22) the sensor is very limited in terms of power, processing power, and memory, 23) limited bandwidth, variable capacity wireless links and limited power operation , 24) dynamic topologies, 25) security issues: key issues of creation, privacy and confidentiality, resilience to denial of service, routing and secure capture, nodes, and 26) sensors are very limited in power, computing power and memory.

M.D. Raju



CYBER CRIME & CYBER SECURITY-LATEST TRENDS

DR.V.GUNASEKHAR REDDY,

Ph.D, PG.DBA, CE.,CNA, ETE, SMIEEE, MBESI, MISCA, MISOLMISTE, MIIPA, MCSI, MPRCI

Professor, ECE Department,
MIST, Hyderabad

gelered@gmail.com, gelered1@rediffmail.com

Abstract

Cyber Crime & Cyber Security underwent several transformations leading to steep increase in crimes related to Cyber space across the World. The Counter measures to tackle the crime related to cyber space and developing security for cyber space is becoming a challenging task. Cyber space crime is increasingly dominant in the present scenario of highest usage of Internet, Computers, Mobiles and digital platforms. In this paper the developments in crime and attacks on Cyber space are dealt. The increasing damages towards Social security, financial frauds, Banking frauds, Data thefts are covered. Cyber security aspects covering Internet Security, Social crimes, Fraudulent Apps., Banking digital Transactions, Data Security are detailed. The legal aspects towards securing Cyber Space from various crimes are detailed. Social awareness strategies are also outlined.

I- Crimes of Cyber Space

Cyber Space crimes are crimes related to the internet using a computer as a weapon to attack a computer or a mobile of a victim. In general, crimes related to cyber space have the following categories.

II- Cyber Crime Types

1. Hacking

In this, an intruder succeeds in accessing to the designated computer without permission. This is Hacking act and they are advanced level experts on computer skills of software and programming. They use several techniques to access the computer when it is accessing the internet. Two most common are: SQL Injections, and FTP Passwords theft and scripting-cross site.

2. Dissemination of Virus

These are programs related to the computers, which gets attached or infect computer operating system or important files, and may spread to many computers which are connected in the network for computer malfunction and affects data

storage. Another type are worms which replicate to occupy empty memory of the system. It is also referred as self replicating malicious malware

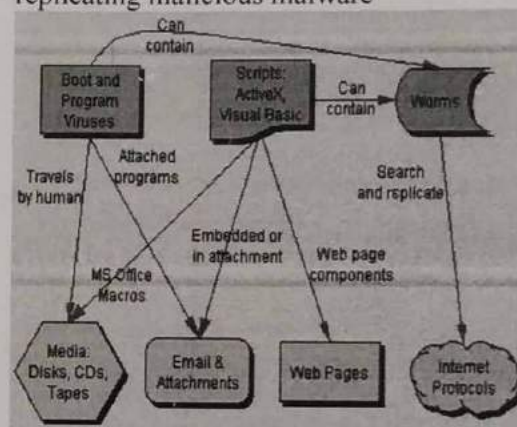


Fig.1 Malware propagation

3. Logical bombs

A logical bomb, or slag code, is a malicious code. It is deliberately transmitted to the computer system software to remain dominantly, for malicious task execution.

4. Denial-of-Service attack

It is an planned approach by attackers to block services to the targeted users related to the service. In this case, the computer resources are flooded with several requests in turn occupying more memory space and resulting in overlading of the servers.

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PRINCIPAL
MAHA VEER
INSTITUTE OF SCIENCE & TECHNOLOGY
Anveshana, Hyderabad



STUDY OF PROPAGATION EFFECTS ON WIRELESS COMMUNICATION SIGNALS AT RADIO FREQUENCY

R.PRABHAKAR

Asst. Professor, Dept of ECE, MIST,
 Hyderabad, Telangana, India
 prabhakar422@gmail.com

R.PRIYANKA

Asst. Professor, Dept of ECE, MIST,
 Hyderabad, Telangana, India
 prmunni7@gmail.com

ABSTRACT

A satellite communication system so as to operates in radio frequency range specifically above 10 GHz with low angle of elevation below 10° tropospheric scintillation attenuation is more effected on the received signals than attenuation because of rain. Scintillation is most significant fade with large scale variations inside meteorological parameters, solar energy radiation, path length, turbulence layer height from sea and surface levels, day as well as night times and short and long time scales. Hyderabad has its own special tropical climatic conditions are changing by means of metrological parameters like temperature, humidity and wind pressure for long term basis. To overcome the scintillation effects on signal degradation as well as enhancement in received signal from satellite communication systems. We need an innovative and develop tropospheric scintillation prediction models fit to Hyderabad tropical climatic conditions. For that this paper proposed tropospheric scintillation prediction models for long term basis give statistically estimation and graphically representation at 40 GHz and 50 GHz beacon frequency using mat lab software which give the study, analysis and diurnal characteristics of scintillation for Hyderabad tropical region.

Keywords : Scintillations, V band, Satellite signals, Tropical climate

INTRODUCTION

Propagation Effects & their Impact

Many phenomena causes lead signal loss from end to end on the earth's atmosphere:

1. Atmospheric Absorption (gaseous outcomes)

2. Cloud Attenuation (aerosolic and ice particles)
3. Tropospheric Scintillation (refractive outcomes)
4. Faraday Rotation (an ionospheric impact)
5. Ionospheric Scintillation (second ionospheric impact)
6. Rain attenuation
7. Rain and Ice Crystal Depolarization

The rain attenuation is the most important for frequencies above 10 GHz. Rain model are used to estimate the amount of degradation (or fading) of the signal when passing all the way through rain. Rain attenuation model: Crane 1982 & 1985; CCIR 1983; ITU-Rp, 618-5(7&8).

Table:1 .Propagation Mechanism and their observable parameters

PROPAGATION MECHANISM	OBSERVABLE PARAMETER
Absorption	Amplitude
Scattering	Phase
Refraction	Polarization
Diffraction	Frequency
Multipath	Bandwidth
Scintillation	Angle-of-arrival
Dispersion	



ANALYSIS AND COMPARISON OF REVERSIBLE HYBRID FULL ADDER/FULL SUBTRACTOR AND CONVENTIONAL FULL ADDER & FULL SUBTRACTOR

K.VENKATESWARLU
ASST.PROFESSOR,
ECE,MIST

S.KIRPAL KOUR
ASST.
PROFESSOR,ECE,MIST

Dr.JASPAL KUMAR
PROFESSOR &
HOD,ECE,MIST
jaspalkumar@rediffmail.com

Abstract:

Logic gates with reversible technology will be implemented over a high scale in the future technologies. Reversible logic is seen as demanding field with the variegated applications like CMOS design consuming less power. Reversible computation plays an important role in low power circuit design and efficient energy recycling[4]. A reversible logic gate which has the equal number of inputs and outputs and one-to-one mapping between the input vectors, so that the input vector states can be uniquely reconstructed from the output vector states. This paper includes a reversible full adder/subtractor design with logic gates using reversible technology and produces less number of junk outputs. The main purpose of designing logic gates with reversible technology is to decrease the quantum cost, depth of the circuits and the number of junk outputs[5]. Thus the proposed architecture of hybrid full adder/subtractor is having minimum number of junk outputs than the existing architecture.

Reversible full adder is further used in the construction of n-bit full adder/subtractor. An adder is a VLSI application used in ALU design, address generation in processors, multiplexers and so on. The complexity in VLSI design increases with increasing level of integrity. In conventional CMOS design the area, power dissipation and delay are more when compared to low power technique, reversible logic[1]. Adders is a versatile component and mainly used in addition and multiplication based on the basic processing element.

The reversible circuits are building block of quantum computers, since the operations involved in this are reversible. In this paper we proposed a design of full adder using logic gates with reversible technology. The design of full adder is modelled by using mentor graphics tool with 130nm technology and also here we compared the parameters like power dissipation, delay between convention full adder/subtractor and reversible full adder/subtractor[2].

KEY WORDS: Logic gates with reversible technology, adder, subtractor, mentor graphics tool, low power.

I. INTRODUCTION

Reversible circuits always maintain one-to-one mapping between inputs and outputs, and is performed by logic gates with reversible technology [6]. Some outputs in reversible circuits are neither used in further stages of computation nor restore any original inputs. These redundant outputs are called junk outputs. Adders are one of the most important blocks of the digital applications. In this paper we

designed one bit hybrid full adder by using different logic gates with reversible technology [11]. Generally this full adder circuits are implemented using CMOS logic, it has an important characteristics i.e., high noise immunity but there is a significant increase in the power consumption due to the increasing speed and complexity of the circuit.

Reversible logic is becoming prominent technology for low power applications [7]. Logic gates with reversible technology can produce exclusively same input vector from each output vector and vice versa. A computation will be said to be reversible if the inputs can be generated from outcomes. There are irreversible computations that dissipates heat a highly important source of computational resource is energy [10]. In this paper we implemented Hybrid Full adder/subtractor using different logic gates with reversible technology. We used two Peres gates and two Feynman gates [7]. Reversible logic has wide variety of applications in the field of emerging technologies such as quantum computers, optical computing, cellular automata, ultra-low power VLSI. Block diagram of logic gates with reversible technology is shown in below figure 1.

PRINCIPAL
MAHAVEER
INSTITUTE OF SCIENCE & TECHNOLOGY
Bandlaguda, Hyd-500 005.



DATABASE DESIGN FOR REMOTE HEALTH MONITORING SYSTEM

SUNITHA DASARI

Assistant professor

Department of E.C.E, MIST, HYDERABAD-
 500070, INDIA.

sunithadasari1@gmail.com

RAVI KUMAR RAYALA

Associate professor,

Department of E.C.E, MIST, HYDERABAD-
 500070, INDIA.

rayala.ravi2015@gmail.com

Abstract: Remote health monitoring facility extends health services to people where immediate health facility is not available. This enables continuous health monitoring for critical diseased people from remote location. The typical system consists of health parameter sensing elements, communication infrastructure to communicate with a central monitoring location where medical facilities such as Decision supporting, scheduling of medical practitioners etc. are available. Electronic record maintenance is very important in remote health monitoring system. This paper aims at the design of the database for remote health monitoring system.

Keywords: Database Design, network layers, security, data access.

I. INTRODUCTION

Now a day's every aspect of life is somehow how associated with Computing and communication b/w those computing elements. Information technology has revolutionized the lifestyle of human being due to advancements in the areas such as Telecom, Biotechnology, Defense, Health care etc.

Research in VLSI technology and Computing has enabled a lot of sophistication in Health Care sector by means of a variety of Surgical Instrumentation, Compact and portable monitoring equipment etc. Even technology expertise is existing, in most of the developing countries minimum health facilities is not reaching people living in Rural, Agency and Hill areas. Similarly in some cases the diseased person may not be immediately movable to the Health centre. In these scenarios Remote Health Management is a viable solution to extend the Health facilities.

This paper aims at the design of the

database for remote health monitoring system. The data from the database is used by the artificial intelligence based supporting system to monitor the health of a patient without the necessity of any medical in charge. Based on this information, the intensity of patient's condition is observed and required treatment is prescribed. Based on this information healthcare professionals prioritize patients with high risks and provide best care at the right time. With the help of this database people are accessed to a fast and convenient care delivered at a consistently high standard. The complete history of a patient can be maintained and whenever he is hospitalized, his medical history is analyzed and required medication is prescribed.

The focus of this paper is on the following issues.

- * A novel architectural design of the medical database which can store vast amounts of patient's information. This database must be integrated with other units like artificial intelligence and user interface to provide best possible care to the patient.
- * A comparative study between characteristics of various databases and design a suitable architecture which suits the requirements of the medical database such as storing images which may be used to identify the disease and many more.
- * Security of the data in this database is very essential as patients information is private and can be misused if data is not protected. The entire data in this database is not complaisant to everyone and several constraints are to be imposed on the data access.

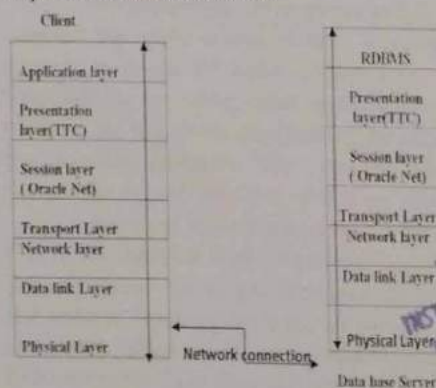


Fig 1: This is the ORACLE representation of OSI.

Principal Mahaveer Institute of Science & Technology
 Sandilaguda, Hyd-500 005.



FULL ADDER ANALYSIS USING FINFET TRANSISTORS

K.ARCHANA

Asst. Professor,
Dept. of ECE, MIST, HYDERABAD –
500070, INDIA
archana.kamireddy2@gmail.com

Dr. JASPAL KUMAR,
Professor & HOD, ECE
Dept. of ECE, MIST, HYDERABAD –
500070, INDIA.
jaspalkumar@rediffmail.com

Abstract:

The objective of this paper is to analyze Full Adder circuit using FinFET which solves the problems faced in CMOS circuits. The proposed FinFET based circuit reduce the power consumption. As CMOS circuit performance reduces when fabricated below 45nm technology, FinFET devices is the alternative solution. The basic motivation is to Analyze an efficient, fast and low power full adder. Since the basic building block of a multiplier is an adder circuit, a study on the area and the power consumed by different adders was reviewed and a proper relation was found out between power and area complexity of all the adders under consideration.

Keywords: CMOS, FINFET, Leakage current, Power Consumption,

I. INTRODUCTION

Today, number of portable applications requires, a limited amount of available power a small footprint, low power and high performance circuit. Consequently, low power circuits become a major concern for the design of microprocessors and system components. Research effort on low power microelectronics has been stepped up and the low power VLSI systems are appeared excessively in demand. An adder is one of the most vital component of a CPU (central processing unit), an arithmetic logic unit (ALU), a point block and address generation floating like a cache or access block, cell phones, personal digital assistant (PDA) and

laptop for staff ,device on the basis of the battery. So the design of a high performance full adder becomes very useful and vital [1]. One of the best known full adder is the CMOS standard full adder, which uses 28 transistors, shown in the fig.1 In this document, we present a complete 1-bit adder circuit using 10 transistors with adequate power consumption and delay characteristics. The main advantages of 10 transistor full adders are, small area compared to full adder with large number of transistors [2], lower power consumption and lower operating voltage. It becomes more difficult and even obsolete to continue operating at full voltage back and forth as you pursue designs with fewer transistors and less power consumption [3]. The pass transistor logic, the output voltage moves back and forth can be graded up in connection with the problem of loss threshold therefore attractive idea is essential for improvement in the overall module performance [4]-[5]. The main disadvantage of 10-transistor full adder is that it suffer from a loss in the threshold voltage of the pass-through transistors. All have double threshold losses at the full adder output terminals [6]. These drawbacks have been overcome by applying the double gate FINFET method 1Bit full adder Design. There is a need to use areal and energy-efficient VLSI circuits. The DB FINFET has two electrically independent gates, giving circuit designers more design flexibility. Dual gate field effect transistors, referred

Congestion Traffic Control Module for Ambulance using RASPI

Dr. Jaspal Kumar, Professor
Aravind Joshi, B. Mounika Yadav, D. Sumedha, R. Kalyani
U.G Students,
Department of Electronics & Communication Engineering
Mahaveer Institute of Science and Technology, Telangana.

Abstract: In congested area traffic jams have the greatest impact on ambulance services. In this paper we proposed a Control System for Smart Traffic Signals with RFID and ZigBee to recognize and control the emergency ambulances or other important vehicles. In this proposed work finally, we concluded that when these important vehicles are connected through our proposed system; help them to assist in reaching to their destinations without any pause. We also compared our results with module using RFID, GPS and found better performance.

Keywords: RFID, Raspberrypi, Zigbee

Due to Congestion pollution occurs, which has an impact on the people who live there. Because traffic in India is uneven, so congestion control should be improved. On account of this congestion, it is difficult for the emergency vehicles to reach its final destination on time. To address these issues, new technologies such as ZigBee and RF over other technologies are being used to improve traffic control systems. RF offers the advantage of being a cost-effective system with no communication interruptions, even in severe weather.

I INTRODUCTION

The fixed time mechanism utilized in the current traffic control system has a number of disadvantages. The traffic signal will not change in response to real-time traffic on a road at a crossroads. As a result, traffic congestion cannot be work effectively, and there will be no chance for increase in road use. In our country, the number of vehicles on the road is increasing day by day, causing traffic disturbances which become a big issue. Long wait times, fuel waste, and money waste are all consequences of traffic congestion.

Levi L. Rose [1] in this traffic control system, a sensing device is used to identify the signal from an emergency vehicle to a receiving point at each traffic light point. When the vehicle is detected at the traffic light point & receiver receives a code. Then receiver convert the code received into original signal, and the red colored traffic signal at all junctions gets disappeared. As a result, the vehicle will get the uni-direction path to reach the destination.

M. Smith et al [2] developed a traffic signal system that allows special vehicles to find a route to avoid traffic congestion and help to develop a path for ambulance to reach its destination. When a vehicle is in emergency mode, a transmitter on the installed-on vehicle radiates a signal to receiver at traffic lights. The received signal is processed by a main controller, which subsequently assumes the traffic light sequence to manage traffic flow at the crossing points where the ambulance or emergency vehicle is moving.

The display system does not show whether ambulance has passed the past junction or not.

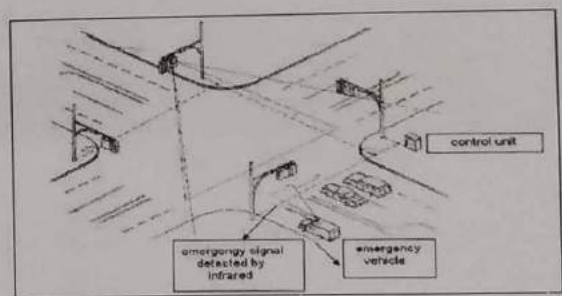


Fig.1 Four-traffic light intersection traffic light

W. L. Mitchell presented a traffic light management system [3] to solve the traffic congestion problems by proving an emergency path for the emergency vehicles. This control system generates two code signals to control the traffic congestion. The first signal code contains a frequency for emergency vehicle, while the second signal code contains a frequency for another vehicle.

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INSTITUTE OF SCIENCE & TECHNOLOGY
Bandlaguda, Hyd-500 005.

SEED SOWING ROBOT USING RASPBERRY PI

A.Ramya sree, IV B.Tech, ECE Dept, 17E31A0403, Ch. Pavithra, IV B.Tech, ECE Dept, 17E31A0414, P.Naga Bhargav, IV B.Tech, ECE Dept, 17E31A0452, P. Manoj kumar, IV B.Tech, ECE Dept, 17E31A0453, Dr.V.Gunasekhr Reddy, Professor, ECE Dept., Mahaveer Institute of Science & technology, Hyderabad

Abstract: Agriculture is a most important field in the life of human being. It is a backbone of our country economy system. In this paper, seed sowing processes with a robot is explained and indicated how to overcome the existing manual sowing problem. In seed sowing machine system, battery powered DC Motor with battery supply is provided for wheels motion, and microcontroller is used for system process control. AT seeds empty condition, seeds storage level is detected and will not run the sowing machine. Seeds can be placed at certain distance based on input received from the user. The operation of robot is controlled with an app with h Bluetooth connection. While rotating the wheel, the seeds fall from the seed container the seed plantation of seeds takes place smoothly, ensuring no wastage of seeds. Before seeding, the soil will be digged with a nail attached to it. This system provides all the facility which can work efficiently.

I. Introduction

The seeding is manual in conventional method. This manual seed sowing has various problems. The existing Conventional methods depend on labor and human involvement. More time and more efforts are needed.. Human labor cant not be deployed continuously for long time. Working in hazardous environments is difficult. We may have to use large size wheels in muddy soil. In agriculture sector, skilled man power is required.

By automating the process of soil loosening and sowing seed by robot, man power can be reduced

II. Traditional seed sowing techniques:

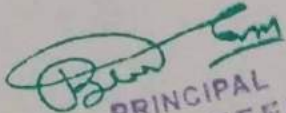
(i) **Line sowing** : Seeds dropping into the soil, using seed drill. The seed drill is covered by wooden Planck for narrow contact for the contact between seed and soil. Sowing of Crops like wheat, jowar, banjara by this method are shown in Fig.1.



Fig 1: Line Sowing



Fig 2. Broadcasting


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DESIGN AND IMPLEMENTATION OF SMART WHEEL CHAIR WITH VOICE RECOGNITION

M.Devaraju
Associate Prof.
MIST

K.Siddartha
B.Tech –ECE
MIST

Abstract

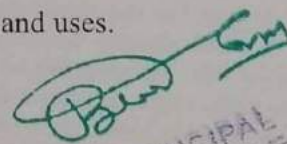
Our proposed project aims at a robotic vehicle operated by human speech commands. The system operates with the use of an voice module which transmits voice commands to a microcontroller to achieve this functionality.

The voice commands recognized by the module are transmitted by through the serial transmitter. These commands are detected by the robotic vehicle in order to move it in left, right, backwards and front directions. The voice module is mounted on top of the vehicle is used to recognize the transmitted commands and decode them. After decoding these commands are passed on to the microcontroller. The microcontroller then drives the vehicle motors to move it accordingly. This is done with the use of a driver IC used to control the motor movements.

Keywords: Raspberry Pi ZERO, DC motors, Voice Module

1. Introduction

An embedded system is a type of computer system principles for more efficient tasks related to accessing, processing, storing, and controlling data and various electronic systems. Embedded systems are a combination of hardware and software, where software is commonly referred to as hardware embedded firmware. One of the most important properties of these systems is that they give o / p on time. Pinch Responsible for on-board systems to make the work more perfect and comfortable. We often use on-board systems for simple and complex devices. The application of embedded systems in our real life mainly includes various devices such as microwaves, calculators, television remote controls, home security systems, and system embedded control; Function diagram, types and uses.



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SMART PRE-PAID ENERGY METER USING GSM

CHEENYA.M¹, SAINAD REDDY NAINI², GAYATHRI MERGU³, SANDEEP KUMAR HOWDEKARI⁴,
BHANU PRATAP MISHRA⁵

^{1,2,3,4,5} dept. of ECE, ¹ Assitant professor, ^{2,3,4,5} Student,
^{1,2,3,4,5} Mahaveer institute of science and Technology Telangana, Hyderabad

- ¹ cheenya.m@gmail.com
- ² sainadr@gmail.com
- ³ gayatrim1202@gmail.com
- ⁴ howdekarys@gmail.com
- ⁵ bhanu4097999@gmail.com

Abstract— The major goal of this project is to lower metering and billing expenses through fewer truck rolls, labour savings, more accurate and timely billing, fewer customer disputes, money from power thefts, and operational efficiencies. Power robbery is the biggest trouble in latest days which causes lot of loss to power forums. In international locations like India, these situations are more frequently. We can save a lot of energy by preventing these thefts. Smart Energy Meters are used for this (SEM). This paper shows how GSM technology was used to create an automatic metre reading system. The GSM Module is connected to the embedded microprocessor (Raspberry pi). The microcontroller is connected to the energy metre. The data from the metre output is read by this controller and transferred to the GSM Module via the serial port. The embedded microcontroller is aware that messages should be sent to the system via the GSM module. The work system employs a completely new "Prepaid Electricity" idea. A LED of the digital energy meter is paired with the LDR whose output is connected to the microcontroller, each blink of the LED delivers a signal to the microcontroller, which counts how many times the LED blinks. The connected load determines the frequency of the LED blinking. The readings are updated by the microcontroller and displayed on the LCD. The GSM technology is utilised to send notifications to the user about their power consumption, and if it falls below a certain threshold, it will automatically remind them to recharge. The user's response aids in the identification of authorised and illegal users, which aids in the control of power theft. All electrical distribution businesses, private communities, IT parks, and self-contained housing projects can benefit from this technology. The controller is in charge of continuously monitoring and measuring the energy metre. This envisioned solution will assist the power board in providing correct invoicing with no errors and reducing manual manipulation.

Keywords— Smart Energy meter, GSM technology, Raspberry pi Microcontroller (PICO), LDR, LCD

I. INTRODUCTION

The automation of energy payments is critical in a world where everything is automated. The world is becoming increasingly computerised, and it is critical that we be able to keep up with trends and

developments. Energy is the most prevalent and vital resource, and the necessity to manage it in a controlled manner is critical in areas where resources are limited. The present system of energy metering as well as billing in India which uses electromechanical and some digital energy meter requires more time and labour and prone to error. The traditional electromechanical meters are being replaced by new electronic meters to improve accuracy in meter reading. Till today the power department in India comes across a lot of revenue collection problems. One of the prime reasons is the traditional billing system which is inaccurate many times, slow, costly, and lack in flexibility as well as reliability [1]. Meters were electromechanical devices with low accuracy and configurability in the past and still in a few countries. Detecting theft was also difficult. Recent advancements in this area appear to offer possibilities for deploying energy efficient metering technologies that are more exact, accurate, and error-free, among other things [2]. With the Peripheral Interface Controller (PIC) and accompanying software, a digital energy metering system has been suggested and developed as a replacement to the electromechanical method [3]. Prepaid Energy Meter was created utilising a microcontroller from the Microchip Technology Inc PIC family [4] due of the inexpensive cost of microcontrollers. The proposed system automatically reads the energy meter data and sends it to the customer and service provider through SMS. It uses a GSM Technology for this purpose. The system provides a feature to disconnect the supply of a customer in case of any payment related issue like zero balance and also if the amount falls below certain limit, then the microcontroller will send an SMS to customer that you have low balance please recharge.

II. EXISTING SYSTEM

The present system metres are either an electronic energy metre or an electromechanical metre, both of which are situated in the building. Only kWh units can be recorded by the metres that are currently in

Raspberry Pi based Solar Grass Cutter Robot

Department of Electronics and Communication Engineering ,MIST, HYDERABAD

V.Himaja,Asst.Prof,MIST

Apurva Deshpande, E.Shirisha, C.Tejaswi, G.Rajkumar

ABSTRACT: The solar grass cutter is a cutting robotic vehicle powered by solar energy. The system uses 12V batteries to power the vehicle movement motors as well as the grass cutter motor. We also use a solar panel to charge the battery so that there is no need of charging it externally. The grass cutter and vehicle motors are interfaced to a microcontroller that controls the working of all the motors. The microcontroller moves the vehicle motors in forward direction as per our commands. Microcontroller then turns the robotic as long as it gets cuts the grass and then moves all directions as per our control. The mobile app Bluetooth serial controller is used for sending instructions to the grass cutter.

Keywords: Microcontroller, Solar energy, Grass cutter, robot

I.INTRODUCTION

Grass cutter machines have become very popular today. Most common machines are used for soft grass furnishing. The main parts of the Grass cutting machines are DC motor, relay switch for controlling motor, Battery for charging it through solar panel. It is placed in a suitable machine structure. The motors having 80rpm is connected to the electric supply by the use of a roll of wire. The linear blades are attached in this machine. Working principle of the grass cutter is providing a high speed rotation to the blade, which helps to cut the grass. The blade will get kinetic energy while increasing the rpm. The cutting edges are very smooth and accurate. Also electric grass cutting machines are much easier to be used in garden, lawn and grass fields. In order to enhance the beauty of home-lawns and gardens, Grass cutting machines are the best available option in the industry. With the help of a lawn mover which is a machine with revolving blades to help us cutting lawns at even length, people can easily maintain and beautify their lawns

and gardens without any hassle. Now a day, there are plenty of options starting from the simplest push along mower to the most advanced electric grass cutting machine. According to world energy report, we get around 80% of our energy from conventional fossil fuels like oil (36%), natural gas (21%) and coal (23%).

It is well known that the time is not so far when all these sources will be completely exhausted. So, alternative sources should be used to avoid energy crisis in the nearby future. So introduce solar energy for the machine process to work. A solar panel is a large flat rectangle. The cells, each of which is about the size of an adult's palm, are usually octagonal and colored bluish black. Just like the cells in a battery, the cells in a solar panel are designed to generate electricity; but where a battery cells make electricity from chemicals, a solar panel cells generate power by capturing sunlight instead. Solar grass cutters have no moving parts and hence require little maintenance and work quite satisfactorily without any focusing device. It does not cause any environmental pollution like the fossil fuels and nuclear power. Solar cells last a longer time and have low running costs.

Raspi based solar grass cutter is a grass cutting robotic vehicle powered by solar energy that is capable of fully automated grass cutting without the need of any human interaction. The system uses 12V batteries for need of charging it externally. The power the vehicle movement motors as well as the grass cutter motor. We also use a solar panel to charge the battery so that there is no grass cutter and vehicle motors are interfaced to Raspberry pi Pico microcontroller that controls the working of all the motors. The microcontroller moves the vehicle motors in forward, backwards, left and right directions.

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Certificate of Publication

This is to certify that the paper entitled

“Driver Drowsiness Detection System for Vehicle Safety”

Authored by :

D. Sunitha, Assistant Professor

From

Mahaveer Institute of Science and Technology, Bandlaguda, Hyderabad

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Raspberry pi based Footstep Power Generation System for Charging Authorised Electronic Appliances

K.Venkateswarlu¹, Asst. Professor MIST

D.Veena², E.Alekya Mudiraj³, K. Virat Swaroop⁴, K.Meghana⁵, K.Shivani⁶

UG Students, Mahaveer Institute of Science & Technology

ABSTRACT:

Day by day, the population of the world and the demand for the power is also increasing. At the same time the wastage of energy is also very huge in many ways. So, reforming this energy back to usable form is the major solution. In this footstep power generation project, we are generating power with the help of human's footsteps; this power is then used to charge battery. The power is stored in a battery that can be used to charge a mobile phone using RFID card. This system is powered by Raspberry PI microcontroller, it consists of RFID module, USB cable, piezo sensors and LCD. When we power on the system, the system enters into registration mode. We can register three users. Once all the user's entered in the system then the system asks to swipe the card and connect the charger. Initially all the user is given 5 minutes of charging time as default. When we swipe the card and if the user is authorised, the system turns on for charging and will charge the Mobile phone. If the user is un-authorized then the system will display as unauthorised user, just in case if the user wants to stop, he can remove the plug.

Keywords:- piezoelectric sensor, raspberry pi pico rp2040, LCD, RFID readers, battery.

1. INTRODUCTION: Footstep step power generation system basically converts force energy of foot into electric energy by using piezoelectric sensors. Piezoelectric sensor is a transducer which converts mechanical energy into electric energy which is used for different applications. Today, electricity has become a life line of human population. The concern about the gap between demand and supply of electricity has led to alternate sources of energy and its sustainable use. Linear increase of human population and energy demand led to the invention of a method to provide power from the increased population. This technology utilizes piezoelectric effect, in which the materials have the ability to generate electricity

from pressure and force applied to them. The ability of some materials to generate electric potential in response to applied pressure is piezoelectricity. Energy harvesting will become a waste if not utilized properly. Pressure exerted by moving people can be converted to electric current with the help of embedded piezoelectric crystals. It is a non-conventional energy production mechanism. Transducers are used to convert mechanical energy of footsteps into electrical energy. The system can be implemented on roads, bus stations and many public places. Piezoelectric materials act as transducers and pressure exerted by the moving people footsteps transformed into electric current.

2. HARDWARE IMPLEMENTATION:

Block Diagram:

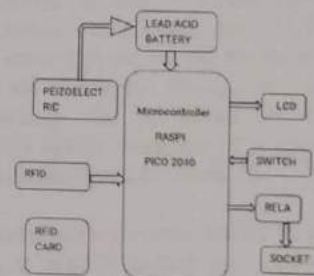


Figure.1: Block diagram of advanced footstep power generating system.

The figure.1 shows the block diagram of an advanced footstep power generator using RFID for charging. After applying weight on piezoelectric plates voltage is developed across the plates. That voltage is applied to the battery for charging purposes. This is then provided to our monitoring circuitry. LCD is interfaced with a piezoelectric sensor using a microcontroller that allows the user to monitor the voltage and charges a connected battery by it. Also, RFID is interfaced with microcontroller to know authorized users & it consists of a USB mobile phone charging point

Design in addition to execution of Women protection arrangement by Utilizing GPS component in addition to GSM Modem

Mr. M.Srinu¹, N. Rahul², N. Srikanth³, V. Amba Bhavani⁴, M. Sathvika⁵.

¹Research Scholar, Department of Electronics and Communication Engineering, Osmania University, Hyderabad-500007, Telangana, India.

^{2,3}U.G Student, Department of Electronics and Communication Engineering, Mahaveer Institute of Science & Technology, Hyderabad-500019, Telangana, India.

srinumtech277@gmail.com¹, chinturahul093@gmail.com², srikanthnookala996@gmail.com³, ambabhavani469@gmail.com⁴, msathvikareddy44@gmail.com⁵

ABSTRACT: *The world is becoming unsafe for women in all aspects. The offense next to women is growing on a advanced speed.*

The working women be emotion dangerous owing in the direction of growing offenses. This manuscript suggests a rapid react device to assist women throughout problem. While an important person is departing in the direction of annoy, they be able to immediately push the key and the site inside arrange in the direction of send because an SMS attentive in the direction of a little digit of Pre-defined information inside conditions of leeway and longitude.

The controller is worn intended for this process. It is a crossing point through a thrust key, a GPS component in a GSM modem. If the knob is pushed, the controllers obtain the present place information starting the GPS component and send that information toward the predefined number using a GSM modem. Also close and relatives can trace location by sending an SMS to the kit. The reason of this paper is to sense secure the women's.

Keywords: GPS, GSM, MS, PIC, ARM, SOS, SIM, VAW

1. INTRODUCTION

Now a day's the safety of women is within hazard especial in the world. The pace of misdeed aligned with women is not declining other than during information rising on upsetting

pace exceptional pestering, molestation, eve-teasing, take hostage in addition to familial aggression.

Many defensive events contain in use through the administration in the direction of discontinue these naughty actions excluding motionless it is not exaggerated the rising speed of these offense in addition to have stay unchanged. The difficulty of sexual pestering is increasing at work place day-by-day. Sexual pestering by the side of a workplace is unwanted performance of a human being with the intention of reason uneasiness, suffering to the additional.

Bulk of such luggage is happened to woman through men functioning on elevated place inside an association. Women is receiving abduct on each 44 action, raped on each 47 action, 17 offering passed away every day [1]. The terror of pestering alongside women is not simply the farm at exterior other than it too occur on residence, Women are not consequently bodily healthy seeing that evaluated in the direction of men consequently inside container of a require serving give would exist a benefit intended for them [2].

Students countenance events similar to youngster trafficking and abducting, at what time they are coming up in the direction of board or come ashore a educate van [5]. Laden through safety apps designed for women, the elegant telephone know how to assist in the direction of propel crisis attentive in the direction of selected populace and in the direction of allow populace be acquainted with condition no matter which goes incorrect [7].

A moment at this time strength exist a state of affairs to what time women had an mishap inside the behind schedule night time and present be refusal one to help them, Inside such state of affairs the human being resolve not exist clever in the direction of inform the state of affairs with the purpose of he/she opposite.

And they perform not be acquainted with the essential first-aid particulars in addition to be acquainted with the human being anywhere the event has happened [9]. Nowadays present a lot of

Design and Development of Hand Glove Controlled Robot Using Raspberrypi Pico

CH.SUNDEEP KUMAR¹, Assistant professor , MIST

CH.AKHILA², D.RAVALI³, J.SRAVYA⁴, K.SHYAM SUNDER RAO⁵
UG Students, Mahaveer Institute of Science & Technology

ABSTRACT: Now-a-days, the work of human is replaced by the robot. Generally, robots are programmed to perform specific tasks which humans cannot. To increase the use of robots where conditions are not certain such as firefighting or rescue operations, robots can be made which follow the instruction of human operator and perform the task. In this way decisions are taken according to the working conditions by the operator and the task is performed by the robots. Thus, we can use these robots to perform those tasks that may be harmful for humans. This paper describes about the gesture control robot which can be controlled by your normal hand gesture. A MEMS Sensor was used to carry out this for convinced operation. In order to full-fill our requirement a program has been written and executed using a Raspberry Pi and Arduino. Upon noticing the results of experimentation proves that our gesture formula is very competent and it's also enhance the natural way of intelligence and also assembled in a simple hardware circuit.

Keywords: Raspberry pi, Arduino, L293d, DC motors, MEMS Sensors.

I. INTRODUCTION

The objective of this project is to build a robot that can be controlled by Hand wirelessly. In this project user is also able to control motions of the robot (car) by wearing controller glove and performing predefined gestures. This can be also used in many potential applications such as wireless controller car racing etc. Nowadays, robotics are becoming one of the most advanced in the field of technology. Robots can be autonomous or semi-autonomous. An autonomous robot is not

controlled by human and acts on its own decision by sensing its environment. Majority of the industrial robots are autonomous as they are required to operate at high speed and with great accuracy. But some applications require semi-autonomous or human controlled robots. A Hand glove controlled robot is a kind of robot which can be controlled by your hand gestures not by old buttons. You just need to wear a small transmitting device in your hand which included an acceleration meter. This will transmit an appropriate command to the robot so that it can do whatever we want. . The applications of robotics mainly involve in automobiles, medical, construction, defense and also used as a fire fighting robot to help the people from the fire accident. But, controlling the robot with a remote or a switch is quite complicated. So, that by using hand glove controlled robot we can avoid such problems.

II. LITERATURE REVIEW

Moniruzzaman Bhuiyan and Rich Picking in Centre for Applied Internet Research (CAIR), Glyndwr University, and Wrexham, UK, proposed a review of the history of Gesture controlled user interface (GCUI), and identifies trends in technology, application and usability. Their findings conclude that GCUI affords realistic opportunities for specific application areas, and especially for users who are uncomfortable with more commonly used input devices. They have tried collated chronographic research information which covers the past 30 years. They investigated different types of gestures, its users, applications, technology, issues addressed, results and interfaces from existing research. They consider the next direction of gesture controlled user interfaces as rich user interface using gestures seems appropriate for current and future ubiquitous and ambient devices.

DESIGNING OF SMART AND SECURE SIGLE ATM CARD FOR MULTIPLE BANK ACCOUNTS

K ARCHANA¹, Assistant Professor

G. RAHUL REDDY², G. JOSHNA³, JEEVAN REDDY KARNATI⁴,

KOTTE PRASHANTH⁵,

DEPARTMENT OF ECE

MAHAVEER INSTITUTE OF SCIENCE AND TECHNOLOGY, VYSAPURI, BANDLAGUDA,
RANGAREDDY (Dist), TELANGANA 500005

ABSTRACT:

The idea behind this work is that to add more than one bank account in an ATM card, so that the user need not carry more cards with them and complication of handling passwords. Here in this one, we embed more than one bank account so that the user can transact as he wishes with a single swipe. If the owner loses his card and if it is used by another unknown person the system will ask for the password if he enter correct password the he will get accessed otherwise a buzzer sound will be alerted at the ATM center. For security we use pin password to access along with the card swipe a buzzer for alert people for illegal transactions.

It provides the user one level higher convenience for accessing multiple accounts. The hardware used is PIC microcontroller. Here the microcontroller acts like a smart card that holds the unique card number. In this proposed system admin module and user module are used. Admin module is responsible for entering the user details, user bank details, ATM card details. It is also responsible for clubbing of all accounts of an individual user and updating the database frequently. User module is the interactive module through which the user can log into the system and perform the transactions of the user's choice. Hereby, the users can access multiple accounts by entering a single PIN number.

I. INTRODUCTION:

The ATM is an automated teller machine which is a computerized telecommunications device that

II. EXISTING METHOD:

An Automated Teller Machine (ATM) or cash machine is an electronic device that allows a bank's customers to make cash withdrawals and check their account balances without the need for a human teller. In modern ATMs, the customer identifies himself or

provides the customers of a financial institution with access to financial transactions in a public space without the need for a human clerk or bank teller. In ATMs the customer is identified by inserting a plastic ATM card with a magnetic stripe or a plastic smartcard with a chip that contains a unique card number and some security information. The first ATM was installed in Enfield town in London on June 27, 1967 by Barclays Bank. The ATMs are known by various other names as Automated Transaction Machine, Automated Banking Machine, Cash Point (at Britain), Hole in the wall, Ban comet (in Europe and Russia) and Any Time Money (in India) [1]. Some people used to write their PIN and password on some paper or diary which is not at all secure. As, it can be easily attacked and hacked by someone, resulting the account holder can suffer. With the growing sector of banking, everyone is using ATM machines as these machines are located in different places and the customer can access his account anytime anywhere. A customer holding a bank account can access the account from ATM systems by getting a PIN or password confidentially [2]. Although various authentication technique like- One time password (OTP) is assigned for strong security system. As the user account linked to register mobile number the SMS alert will be sent as otp. After completion of transactions the otp will be sent and If the otp is correct the withdraw of money is proceed with running of dc motor. Tokens such as magnetic stripe cards, smart cards and physical keys, can be stolen, lost, duplicated, or left behind; passwords can be shared, forgotten, hacked or unintentionally.

herself by inserting a plastic card with a magnetic strip or a plastic smart card with an IC chip which contains Card Identification Number (CIN) and some information. The main authentication for ATM transaction is the Personal Identification Number (PIN) of four digits that is used by the customer to access the ATM machine in order to make

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Certificate of Publication

This is to certify that the paper entitled

“IMPLEMENTATION OF CHILD SAFETY MANAGEMENT SYSTEM USING RFID AND GSM MODULE”

Authored by :

R. PRIYANKA, Assistant Professor

From

Mahaveer Institute of Science and Technology, Hyderabad, Telangana, India

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Design and Implementation of Zigbee based Vehicle to Vehicle Communication using Raspi

1st Surendar Guguloth
Electronics and Communication
Engineering
Mahaveer Institute of Science and
Technology
Hyderabad, India
naik.surendarmtech@gmail.com

4th Akash Chandra M
Electronics and Communication
Engineering
Mahaveer Institute of Science and
Technology
Hyderabad, India
akashakshay75@gmail.com

2nd Akhila K
Electronics and Communication
Engineering
Mahaveer Institute of Science and
Technology
Hyderabad, India
akhila2477@gmail.com

5th Renuka M
Electronics and Communication
Engineering
Mahaveer Institute of Science and
Technology
Hyderabad, India
renukamahadevi98@gmail.com

3rd Ramya Sri K
Electronics and Communication
Engineering
Mahaveer Institute of Science and
Technology
Hyderabad, India
ramyasri52561@gmail.com

6th Ravi Kumar Nenavath
Electronics and Communication
Engineering
Mahaveer Institute of Science and
Technology
Hyderabad, India
n.janakiravi@gmail.com

Abstract— In this Hi-Fi modernization world coping up with road safety and traffic congestion is the need of the hour. Many research works are proposed and undergoing in this particular thrust area. This paper proposes an Intelligent Transport System (ITS) that provides an effective Vehicle-to-Vehicle (V to V) communication mechanism using Zigbee. Especially in Vehicle-to-vehicle communication Zigbee proves a vital role and it is the key protocol for wireless sensor network applications. The key features of Zigbee include long battery life, low-cost for installation and ease maintenance. These features in Zigbee enable uniform mesh networking, which effectively supports the wireless communication between many vehicles, routers and receivers. Ultrasonic sensor has a role in vehicle-to-vehicle communication that they analyse the distance of the vehicles by automatically sending eight 40 kHz and detect whether there is a pulse signal back and communicates with another vehicle using zigbee module. In this paper suggestions are proposed for periodic monitoring of vehicular movements, enhancing road safety and handling traffic congestion are dealt with. Since these two above mentioned issues are the core aspects in transportation industry and an important problem which the world faces today, this paper deals with effective inter communication of vehicles using Zigbee protocol.

Keywords—ZIGBEE Module, Ultrasonic Sensor, Raspi, V to V, Communications.

I. INTRODUCTION

The rapid growth in the vehicle ownership is one of the major for economic growth of the country. Explosion of the new trends and technologies requires fast transportation of all goods alike. The goal of each one is to reach the destination without wasting time and money. But the infrastructures provided by current resources are very limited. So, the traffic management at road is essential to reduce waiting and travelling times, saves fuel and money. In current scenario the low and high traffic information is offered by only who are affected by that traffic problem for waiting long time to get signal to move other side. Thus, there is wastage of fuel. If accident is occur sharing the information take much amount of time.

Various factors such as crest of a hill, heavy fog, blind corner, heavy rain shown in fig.1, snowfall, icy roads, vehicle mechanical problems contribute to vehicle crashes are considered to be the leading cause of more than 92% of all accidents. It is due to the inability of drivers to react in such emergency situations.



Figure 1: Heavy Rain

These problems can be avoided by taking certain precautions by the use of Vehicle-to-Vehicle Communication. In Vehicle-to-Vehicle communication shown in fig. 2, the vehicle can communicate with the other vehicle in the specified range and share the information about the traffic jam, road accidents, direction speed, weather and ensure a safer and more comfortable drive.

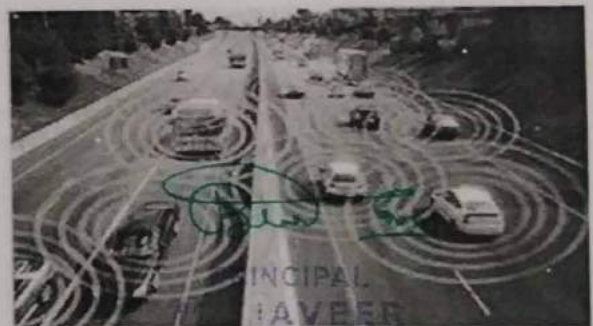


Figure 2: V to V Communication
Bandlaguda, Hyd-500 005.

Mobile Application Controlled Pick and Place Robotic Vehicle using RASPI

Mr. M. Prashanth , Assistant Professor, Mr .B. Srinu , Assistant Professor

CH. Sai Krishna, G. Rahul Kumar, A. Srikanth, G. Sanjay

U.G Students,

Department of Electronics & Communication Engineering

Mahaveer Institute of Science and Technology

Telangana.

Abstract: This project is to design and develop a "Mobile Application Controlled Pick and Place Robotic vehicle" which could be controlled using a Raspberry pi pico microcontroller .The goal of this project is to design and manufacture a pick-and-place robotic vehicle for industrial use that is more small, useable, and less expensive. The Raspberry PI board and the Mobile phone are linked so that the system can be operated. The robotic arm is designed to perform actions comparable to those performed by a human hand. The Mobile application generates a signal that is used to command the robotic arm vehicle to move forward, backward, left, or right, which is then processed by the Raspberry Pi. With the help of motors, the robotic arm follows the instructions in the programmed programme. The motors are the one that power both the arm and the body Robot. The main command sector of the robotic arm vehicle is the mobile application. The Raspberry Pi's programming is done in Python, and the movement is controlled by the information provided in the code.

Keywords: Raspberrypi, Mobile Application

1. INTRODUCTION

Robotics deals with the robotics program, their production and their applications. Robots are becoming more popular in today's technology because it demands a much lower fee to operate than because it demands a much lower cost to operate than a human to do the same work and a programmed robot can perform better than an experienced human. Industries have been attempting to replace human labour with robots for many years. Robots are machines that are faster and more accurate than humans. Robots are typically used to perform dangerous, hazardous, repetitive, and unpleasant tasks. They have numerous functions, for example, fabric handling, assembly, arc welding, resistance welding, computer device load and sell off functions, painting, spraying, and so on.

The base is constructed with wheels and motors, while the arm is constructed with clamps, grippers, and servo motors. The robotic arm's mobility is mostly controlled by motors. The Raspberry Pi will be connected to all of these motors. The Raspberry Pi is a single-board computer that has many of the same features as a regular computer. It consists of 28 GPIO pins with the assistance of which we could control the robot.

Robots are typically controlled by cable connections, which creates a space. In order to avoid this disadvantage, connections can be made wireless using Bluetooth facility. An application built on the Mobile phone is used to control the entire system. Since, the mobile application being the center of command of the arm, all of the instructions regarding moving or grabbing specific things is done using JAVA language. This mobile application will have a number of buttons for controlling movement. As a result, when any of the application's buttons is hit, a signal is generated, which in turn triggers the Raspberry Pi's predetermined programming, which controls the motors.

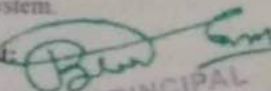
2. SYSTEM IMPLEMENTATION

All of the components of the robot model are divided into two categories: hardware and software. The most crucial and fundamental stage is the creation of a platform, which includes system equipment and software.

The hardware of a robotic arm vehicle is the most important phase in the system's operation. The Raspberry PI, as well as the robotic arm and vehicle section, are major components of the system's hardware platform. The basic motion control is achieved by turning on the Bluetooth facility to control the free movement of the system.

Hardware requirement:

1. Raspberry Pi Pico
2. Servo Motor
3. DC Motor
4. HC-05 Bluetooth module
5. L293D Motor Driver


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INSTITUTE OF SCIENCE & TECHNOLOGY
Bhongalaguda, Hyd-500 005.

Advanced Driver Assistance Robot To Avoid Accidents

1st Nenavath Ravi Kumar
Electronics and Communication
Engineering
Mahaveer Institute of Science and
Technology
Hyderabad, India
n.janakiravi@gmail.com

2nd Madhu Priya S
Electronics and Communication
Engineering
Mahaveer Institute of Science and
Technology
Hyderabad, India
madhupriyareddy2710@gmail.com

3rd Jyothi Singam
Electronics and Communication
Engineering
Mahaveer Institute of Science and
Technology
Hyderabad, India
jyothisingam2000@gmail.com

4th Rajasri Nirati
Electronics and Communication
Engineering
Mahaveer Institute of Science and
Technology
Hyderabad, India
neeratarajasri956@gmail.com

5th Shaik Hussain
Electronics and Communication
Engineering
Mahaveer Institute of Science and
Technology
Hyderabad, India
hussain22shaik@gmail.com

6th Surender Guguloth
Electronics and Communication
Engineering
Mahaveer Institute of Science and
Technology
Hyderabad, India
naik.surendarmtech@gmail.com

Abstract— An Obstacle detection and avoidance are the most important aspects of creating mobile robots. This technology equips robots with senses that allow them to navigate unknown areas without harming themselves. This study proposes an Obstacle Avoiding Robot that can identify impediments in its path and manoeuvre around them without colliding. To detect impediments, a robot vehicle runs on the Raspi Microcontroller and uses two ultrasonic distance sensors. The Raspberry board was chosen as the microcontroller platform, and Raspberry Software, its software counterpart, was used to programme it. The use of two ultrasonic distance sensors improves the accuracy of obstacle detection in the surrounding area. It successfully manoeuvred in unknown situations as a fully autonomous robot without colliding. The robot is easily replicated because the hardware was used in this project is widely available and inexpensive.

This research was created an obstacle-avoiding robot that can move without colliding by using two ultrasonic distance sensors to detect obstructions in its path. Surveying landscapes, driverless automobiles, autonomous cleaning, automated lawnmowers, and supervisory robots are just some applications for robots guided by this technology. The most important skills are an obstacle identification and avoidance.

Keywords—ADAS, Ultrasonic Sensor, Road safety, Accidents.

I. INTRODUCTION

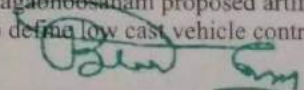
In this present scenario the world road developed is a major concern. Most of the accidents in present scenario are associated with excessive road transportation and inappropriate speed of vehicles.. The majority of accidents are caused by driving too fast. It communicates with the driver and, if necessary, takes the appropriate procedures to avert a vehicle crash. In this Advanced Driver Assistance Robot To Avoid Accidents system, various sensors are embedded to increase smart way of safety during the driving process. Some of the sensors include in this system are an ultrasonic sensor, gas sensor, temperature sensor, alcohol sensor, and some other sensors that are embedded to increase safety.

The ultrasonic sensors are used to identifies an obstruction, this sensors are used to transmit and receive

signal to obtain obstacles and the driver will be notified, and if no action is done, then the Advanced Driver Assistance Robot system will automatically reduce the speed or, in some risky scenarios, stop the vehicle when it is too close to another vehicle. Advanced Driver Assistance Robot system is the IOT based system.

II. LITERATURE SURVAY

A New Frontier of ADAS Research defines the Advanced driver assistance systems (ADAS) are a collection of electronic technologies to help smart driving and parking [1]. A Survey of Theory and Practice Autonomous Vehicle that Interact with Pedestrians using GPS system [2]. Paolo Bosetti, Mauro Da Lio, Andrea, Saroldi defines the details of intelligence vehicle driving to avoid accident by electronic sensors [3]. Chaudhari Priyanka Ramnath proposed several methods to provide automatic safety while driving like collision avoidance using IR sensors, fuel detection systems, lane change assistance, and adaptive light control system [4]. Nayana.H.C, Basavaraj Neelgar, Ragul High ware proposed methods to detect objects like vehicles and pedestrians by using the Pi camera module which is useful for collision avoidance among vehicles and with some other objects [5]. But in smoky and dust conditions the Pi camera will not be suitable for capturing images due to poor visibility it will result in blur images which is not sufficient for object detection while driving and makes the driving tougher. Ashok Kumar.R, Kavitha.V, Jegan.R, Satish.S proposed speed limit recognition using Beacon technology [6]. This beacon work along with Bluetooth enabled in mobile phones to provide notification of speed limits whenever the vehicle comes into the region where beacon tags are placed. The only disadvantage is that the Beacons can be used along with smart phones with Bluetooth enabled if there is no connection or due to poor connection with mobile phones there may be a lack in the transformation of information to the drivers. And the other disadvantage is the cost, it is not cost-effective and battery friendly. Nenavath Ravi kumar and Nagabhooanam proposed artificial bee colony algorithm to define low cost vehicle control[7].


PRINCIPAL
MAHAVEER

Implementation of Universal Reversible Logic Gate using Mentor Graphics Tools

K.Venkateswarlu¹, S.Soujanya²

¹Asst.Professor, Dept. of ECE, Mahaveer Institute of Science & Technology, Bandlaguda, Telangana, India.
²Asst. Professor, Dept. of ECE, Mahaveer Institute of Science & Technology, Bandlaguda, Telangana, India.

Abstract - : Reversible logic is becoming one of the best effective emerging design technology having its application in low power CMOS, quantum computing, cryptography and nano technology [1] Conventional circuits are irreversible in nature and dissipates power for each bit loss in circuit[2]. It can be reduced by inverse property of reversible logic gates, all the input vectors can be retrieved from output vectors[3]. Reversible logic gives zero amount of heat dissipation[5]. Reversible computation plays an crucial role in low power circuit design and efficient energy recycling[4]. This paper proposes a reversible design of 4x4 URL(Universal Reversible logic) gate implemented using mentor graphics tool with 130nm technology, operated at threshold voltage of 1V. Here we calculated the power dissipation and delay for URL gate. This gate includes XOR, NAND, and NOR logical operations, employed in applications like ATPG, fault detection, BIST, Various logic circuit implementations etc.

Key Words: Reversible logic gates, power dissipation, ATPG, fault detection.

1. INTRODUCTION

In modern VLSI design, power dissipation is the critical limiting factor for more complex circuits. According to the Landauer's principle, every conventional combinational circuits dissipates $KT \ln 2$ Joules of energy for one bit loss of data, where K is Boltzmann's constant and T is absolute temperature[1]. R.Landauer's presented high technique circuitries and systems formulated through irreversible hardware will result in dissipation of energy because of loss of data[9]. Reversible logic has received great attention in the recent years due to their ability to scale back the power dissipation which is the main requirement in low power VLSI design [6]. Reversible logic circuits have theoretically zero internal power dissipation as they do not loose information [2]. The circuit operates in a backward direction, allows reproducing the inputs from the outputs and consume zero power [1]. It realizes the network cascade of given reversible gates and ensure that cost is low, where fan out and feedback are not permitted [7].

A reversible gate is an n-bit function that maps each possible input vector to a unique output vector[1]. According to Bennett no energy would dissipate from a system if it might be ready to return to its initial state from its final state[3]. The important challenges of designing reversible circuits are to lower the number of gates, garbage outputs,

delay and quantum cost. Any reversible circuit should be designed with minimum number of reversible logic gates. They provide cost effective solution to the exponentially increasing needs of industrial electronics. A basic structure of reversible gate is shown in Fig1.



Fig1: Basic structure of reversible Logic gate

Characteristics:

1. A reversible gate must have equal number of input and output vectors i.e., $2^n, 3^n, \dots, n^n$.
2. For every input pattern, there must be a unique output pattern.
3. Each output must be used once.
4. Loops and feedbacks are forbid in reversible designing.

2. REVERSIBLE LOGIC GATES

A reversible gate is a memory-less logic element that realizes an injective logic function. Here we investigate basic properties of reversible logic gates and circuits, which are needed in the further discussion. Reducing the whole amount of garbage signals is an crucial problem in designing reversible logic circuits [8]. According to reversible networks no fan out and no feedback constraint condition and limitation, reversible logic synthesis is to use reversible logic gate given to implement the relevant reversible logic network meanwhile make the price as low as possible. Reversible logic gate cascade is one of the key issue of the reversible logic synthesis[10].

Constant input: This refer to the input, which is maintained as constant at either 0 or 1 so as to achieve appropriate logic function[1].

- Low power CMOS.
- Quantum computing.
- Nano technology.
- Optical computing.
- Built in self-test.
- ATPG.

5. CONCLUSION

The reversible circuits form the fundamental building blocks of quantum computers. This paper presents the primitive reversible gate which is implemented with CMOS realization using Mentor Graphics 130nm Technology and helps researchers/designers in designing higher complex computing circuits using this URL reversible gate. Also we calculated the various parameters which has total power dissipation and delay, which proves that this URL Gate is giving better results compared to conventional CMOS logic Gates.

6. REFERENCES

- [1] Prudhvi Raj, K "Transistor level implementation of digital reversible circuits" International journal of VLSI design and communication system (VLSICS) Vol.5.No.6, Dec 2014.
- [2] Rajeshwari, M, Rohini, S. Hongal, Rajashekar, B. Shettar, "Design and implementation of 8 bit shift register using Reversible Logic gates" International Conference on current trends toward converging Technology, 2018 IEEE.
- [3] Ms A. Anjana, Mrs A.V. Anantalakshmi "Design of reversible 32-bit BCD Add-Subtract Unit using parallel pipe line method" International Conference on advances in electrical, electronic, information, communication and bio-informatics 2016 IEEE.
- [4] Lenin Gopal, Adib Kabir Chowdary, Alpha Agape Gopalai, "Reversible logic gate implementation as switch controlled reversible Full adder/Subtractor" International Conference on control system, computing and engineering, 28-30 NOV 2014.
- [5] Anamika, Rockey Bhardwaj "Reversible logic gates and its performances" Second International Conference on inventive systems and control 2018 IEEE.
- [6] S Dinesh Kumar, Noor Mohammad SK "A Novel SRAM cell design using reversible logic" Third International conference on Ecofriendly computing and communication systems 2014.
- [7] Sebastian Offerman, Robert Wille, Gerhard Dueck "Synthesizing Multiplier in Reversible logic".
- [8] Kenichi Morita "reversible logic gates" 8th November 2017.
- [9] Jacob, B. Chacko, Pawan Whig "Low delay based Full Adder/Subtractor by MIG and COG reversible logic gate" 8th

International Conference on computational Intelligence and Communication networks 2016.

[10] Huili, Zhijin Guo, Shanli Chen "The reversible network cascade based on reversible logic gate coding method" Fifth International Conference on Information assurance and security 2009.

BIOGRAPHIES



K Venkateswarlu received M.Tech (VLSI) from VNRVJIT affiliated to JNTU in 2009. He has published several conference and journal papers. His research interests include Low Power and Ultra Low Power Static Random Access Memory (SRAM) design, Low Power and Energy Efficient logic design, reliable and fault tolerant static and dynamic CMOS circuit and system design, and VLSI implementation of digital systems.



S. Soujanya received M.Tech (VLSI) from GRIET affiliated to JNTU in 2010. Her research area includes Area and power optimization techniques in VLSI Design, CMOS VLSI Design & Testing Circuits and Static timing analysis of VLSI Designs.

K. Venkateswarlu
PRINCIPAL
MAHAVEER
 INSTITUTE OF SCIENCE & TECHNOLOGY
 Bandlaguda, Hyd-500 005.

Design of Rectangular Antenna with Fractal Defected Ground Structure for Dual Band Applications

¹Karunaiah Bonigala, ²Dr.P.V.Sridevi,

¹Research Scholar, ²Professor

Dept.of ECE, AU College of Engineering (A), Visakhapatnam, AP, India.

Abstract In this paper, a novel fractal defected ground structure (FDGS) has been proposed to work at dual-band for Ultra-wide band (UWB) applications. The dual bands are obtained by accommodating the dimensions of slotted fractal DGS in ground. The dual band microstrip antenna with iteration 2 FDGS is fabricated and measured. The 10 dB return loss bandwidth percentage of simulated FDGS are 5.26 % (7.4-7.8 GHz), 8.94 % (11.6-12.7 GHz) The gain of dual band antennas are between 3 to 6 dB, the FDGS has improved the 10 dB return loss bandwidth, radiation characteristics and max gain. The fabricated antenna is tested experimentally by cross verifying the simulated results. The measurements have been carried out using vector network analyzer in anechoic chamber.

Keywords: dual band, rectangular patch, fractal defected ground structure.

1. Introduction

The dual band antennas are used in wireless, wide bandwidth, electromagnetic compatibility (EMC) systems etc. The dual band antennas have special features like low power consumption, less complexity, wider scan angle capabilities, less weight, low cost and easy of system integration. The researchers design different DGS like E shape, C shape, dumbbell shape, rectangular co directional split ring resonator (RCSRR), meander DGS, interdigital DGS are slotted on ground for dual band applications [1-5]. The dual band antennas are more popular and co directional DGS reduce the coupling on radiation characteristics, used for dual band MIMO applications [1]. The pair of microstrip feed line with meander multimode DGS has improved the bandwidth, efficient electric field distributions on slotted meander line and operate at dual band bandpass filter [2]. The dual band antennas have inter digital DGS etching on ground, operate at 2.44 GHz, 3.28 GHz, stop band attenuation of greater than 30 dB [3]. L shape DGS using for WiMAX, WLAN applications [4]. In [5] reported on E shape DGS has fractional bandwidth of 5.8 %, insertion loss of 3.6 dB for dual band substrate integrated waveguide (SIW).

K.wei proposed square microstrip antenna and slotted fractional DGS on ground to reduce the losses in polarization, improve the circular polarization (CP) and cross polarization of linear polarization antennas for L band applications [6]. The DGS has slotted on ground then improve wide impedance bandwidth, compact size, conformability, used for wireless body area network (WBAN), industrial, scientific, medical [ISM] band [7]. asymmetric pi shaped fractal DGS on ground has low insertion loss [8]. The fractal DGS has been utilized in microstrip low pass filter [LPF], high attenuation level in stop band, wireless for multiband, geostationary satellite communications[9-10] and sierpinski gasket fractal exploits in RFID applications [11]. DGS has improved the radiation efficiency [12], employ at multi band vehicular communications, mobile satellite, GSM applications [13]. Naser proposed semi fractal with slotted conductor backed plane with coplanar wave guide (CPW) for monopole ultra-wideband, dual band and more efficient radiation efficiency [14]. Size reduction, enhancement of impedance bandwidth by circular patch with fractal DGS slotted [15], Hilbert fractal DGS [16]. Octagonal fractal antenna with feed CPW has stable radiation patterns, operates in wide band [17]. Square shape fractal etched on ground which resonate at bandpass filter [18], improve the circular polarization, improve forward efficiency, and forward realize gain [19-24].

In view of the above facts, intensive investigations have been carried out on FDGS antenna to obtain dual bands and used at UWB applications. In the proposal, the dual bands are obtained by iteration 0, iteration 1, iteration 2 accommodate the dimensions of slotted fractal DGS in ground. The dual band microstrip antenna with iteration 2 FDGS is fabricated and measured. The 10 dB return loss bandwidth

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Bandlaguda, Hyderabad

Design of H Shape Patch with T shape Slotted Defected Ground Structure for Dual band Applications

¹Karunaiah Bonigala, ²Dr.P.V.Sridevi,

¹Research Scholar, Dept.of ECE, AU College of Engineering (A), Visakhapatnam, AP, India.

²Professor, Dept.of ECE, AU College of Engineering (A), Visakhapatnam, AP, India.

Abstract In this paper, a novel H shaped patch with T shape slotted on ground plane is proposed to work at dual-band applications. The dual bands are obtained by T shape slotted DGS on ground plane. The dimensions of substrate $10*25*1.6 \text{ mm}^3$ with FR4 epoxy material have dielectric constant 4.4. The 10 dB return loss bandwidth percentage of simulated T shape DGS are 75% (2.8-6.7 GHz), 2.94 % (10.1-10.4 GHz). The gain of dual band antennas is between 3 to 8 dB, the T shape DGS has improved the 10 dB return loss bandwidth, radiation characteristics and max gain.

Keywords: Dual band, H shaped patch, T slotted defected ground structure.

1. Introduction

A defect on the ground can change the propagation properties of a transmission line with change in the current distribution on the ground side and the alignment of the fields between the ground and the line. The novel microwave components like couplers, dividers, filters, impedance transformers can be made up. The structure in the most basic form consists of a line with defects on its ground.

The DGS studies conducted up to now have basically focused on the dumb-bell-shaped DGS which is basically proper for high frequency filtering applications [1-5]. The dumb-bell shaped defect is placed under the microstrip line and Studies on the analysis of the structure have generally used the current density approaches [6] to model the structure. The current density distribution is determined not only by the line path, but also with the discontinuities on the ground; and the resulting current distribution is interpreted as a physical model [6]. After the physical modelling of the structure, the discontinuities are modelled in the form of the basic circuit components using the previous discontinuity studies [7-9]. These discontinuity studies, beyond their old age, are still valid, and efficiently used.

Another application of the DGS is the photonic band-gap structures (PBG). The promising effect of the band gap structures in microwave devices has generated the term electromagnetic band-gap (EBG) structure. These EBG structures are formed by the periodically distributed non uniformities on the ground, substrate, or the line of a microwave component. These non-uniformities may be natural or synthetic. A periodically placed defect on the ground is a synthetic example of the kind the dumb-bell shaped [1-5], periodically placed [12], L-shaped [9], and spiral-shaped [10] DGSs are investigated and implemented.

Automatic Street Light Control Based On Vehicle Movement

Abhay kumar¹, A.Srikanth², G.Jayanth kumar³, B.Karunaiah⁴, Y.David Solomon Raju⁵

^{1,2,3}UG Student, Department of ECE, ^{4,5}Associate professor, Department of ECE,
Holy Mary Institute Of Technology And Science, Bogaram(V) Keesara(M), Medchal-501301
E-mail : karunaiahb@gmail.com

Abstract:-

Now-a-days the amount of power consumed by lighting and streets shares a major energy demand. The vehicles are passing over always and a part of places will be consisting of less density areas and even no vehicle moments itself in few areas. But during night all street lights will be on in conventional street lighting system. Street lights play a vital role in our municipal service delivery sector and also plays a critical role in providing light for safety during night time travel on our roads. Maintenance and service for millions of street lights become a nearly impossible task.

Intelligent Street Lighting is all about fully automated control of street lights across your street based on daylight. This design eliminates the need for any manual intervention of switching street lights ON/OFF. This is so possible with the help of an LDR (Light Dependent Resistor) module which is interfaced to Arduino board. Depending on the intensity of light falling onto LDR Street lights are turned on and off. Also, High Intensity Discharge street lamps has been replaced with LEDs, so that the power consumption is reduced.

Street light automation system is smart and provides a safe night time environment for all road users including pedestrians. It discusses an intelligent system that takes automatic decisions for on/off considering movement of vehicle or pedestrian and surrounding light intensity. Here we consider two cases one is switch of lights during no vehicle moments in streets and automatically switch it on when vehicles arrive and the other modes are to give less intensity light for pedestrian and to switch on bright mode during vehicle moments at sides on the roads.

Key Words:- LDR, LED, Arduino board, High Intensity

I. INTRODUCTION

The project aims in designing a system which is capable of continuously monitoring the street lights on highways and at other places based on the detection of motion of vehicles or human beings which in turn helps in conserving the energy.

Technology is being used everywhere in our daily life to fulfill our requirements. We are employing different sensors for different applications sometimes we may even use same sensors differently for different applications. Whatever it may be the final output is that it makes our life simple and easier with its applications. Life has increased its speed with the technology boosters. We cannot only increase the speed of life but also increase the security and conserve the energy with good ideas to make use of this technology.

Hand Motion Based Crane Control Using Wireless Communications

G.Chanakya¹, B.Karunaiah², Y.David Soloman Raju³, B.Maheshwari⁴, D.Naveen⁵
^{1,4,5}UG Student, ^{2,3}Associate Professor, Department of ECE,
Holy Mary Institute Of Technology And Science, Bogaram(V) Keesara(M), Medchal-501301


Abstract:

The applications & advantages of remote controlled robots or cranes are plenty, especially in specific areas where people cannot go there to perform specific task, there these are playing major role. The crane mechanism designed here can be used for creating to and fro movement in the robotic arm using wireless communication network. The same robot with little modifications can be used for many applications, as it is it can be used as spy Robot. The same robot with required modifications can be used for military applications also; likewise the applications of these types of robots are plenty. The technology implemented in the system offers many latest expectations; the main advantage is that the Robot can be controlled from the safe zone through the remote designed using MEMS technology.

MEMS (Micro Electro Mechanical Sensor) is the device often used as position displacement sensor, the applications of MEMS are plenty and to prove the application practically this system is designed to control the robot as well as the robotic arm by changing the position of MEMS device. Micro Electro Mechanical Systems (MEMS) is the integration of the mechanical elements, sensors, actuators and electronics on a common silicon substrate through micro fabrication technology. The broadest requirement for these very small devices is ability to sense the environment, to collect necessary data and to create a signal or action to make desired changes to the environment. The MEMS is like a motion sensor. Slight variation in the X, Y, or Z – axes gives the voltage variation that is fed to the ADC and the digital information from ADC is fed to the controller. In this project one MEMS module is used to control the movement of the robotic arm to and fro motion.

The system designed with microcontroller unit functions according to the command signals generated and transmitted from the remote control unit by moving the MEMS. Based on this information the robotic arm is also controlled. This robot is equipped with a proclainer mechanism at its front side for picking the object and dropping. The communication system designed with RF (Radio Frequency) modules operates at 433 MHz and can control the robot from a maximum distance of 60 feet. One DC motor with reduction gear mechanism is used to drive the robotic arm to and fro movement depending on the MEMS movement through hand motion.

Keywords: MEMS, ADC, Military Applications.


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INSTITUTE OF SCIENCE & TECHNOLOGY
Bandlaguda, Hyd-500 005.

A DESIGN OF MULTILoop CONTROL FOR FAST TRANSIENT DC-DC CONVERTER

¹Mr B.Karunaiah,² Dr .K. Kanthi kumar,³Mr.Y.David Solomon Raj,
⁴Mr.M.Anjaneyulu

¹Associate Professor ,Department of ECE, Holy Mary Institute of Technology & Science

^{2,3}Associate Professor, Department of ECE, Holy Mary Institute of Technology & Science

⁴PG Student, VLS Design, Department of ECE, Holy Mary Institute of Technology & Science.

Abstract:

A design of novel AC coupled feedback (ACCF) is proposed to alternatively realize fast transient response while inherently controlling the start-up in-rush current of a DC-DC switching converter. Moreover, the ACCF circuit assists to manage the ramping speed of the output voltage during power-up, thereby eliminating the bulky soft-start circuit. The new controller is very simple to implement and occupies a tiny footprint on-chip. A buck converter with the proposed scheme has been fabricated using CMOS process with an active silicon area of 0.6 mm². Measurement results show that the output voltage rises linearly for a soft-start period of 1.05 ms according to the designed slope. The proposed ACCF is modified from a conventional capacitor multiplier and connected between the outputs of the converter and the transconductance. With this supplemental feedback, the transient response has been significantly improved due to the gain-boosting effect around the compensator's midband. Excellent load transient responses are achieved under different load current steps; the output voltage overshoot/undershoot of 60 mV settles down within 10 μ s for a load variation from 50 μ A to 1 A in 1 μ s. Moreover, the proposed converter maintains both excellent load and line regulations of 0.019 mV/mA and 0.0055 mV/mV, respectively.

Enhancement of This Project:

□ Design of fast transient DG-DC converter implemented in 45nm CMOS technology, and vary input voltage 2.6V ~ 4.2V.

INTRODUCTION :

Step-down method of DC -to-DC power converter it is called Buck Converter. The operation of electromechanical device of DC-DC converter is converts direct current (DC) from certain level of input voltage to another voltage level. This paper proposes the novel design implementation of fast transient response current-mode buck converter with ac coupled feedback (ACCF). Where, ACCF is the modified design of a conventional Capacitor multiplier. The previous method of DC to DC Converters requires more power to achieve the fast transient to voltage conversion and it has high electromagnetic interface (EMI) noise. To overcome this problem this work presents a novel design of DC-DC converter with ACCF. ACCF circuit used to eliminate the bulky soft-start circuit when the ramping speeds of the output voltage during power-up. A Present Proposed system uses current mode- controller to improve response in speed and also increasing load transient voltages. The proposed scheme has been implemented in input voltage 2.6V ~ 4.2V and 45nm CMOS technology and

Kanthy
PRINCIPAL
MAHAVEER
INSTITUTE OF SCIENCE & TECHNOLOGY
Bandlaguda, ryl-500 005.



ACCIDENT DETECTION FOR RELEASE AIRBAG USING GSM, GPS&MEMS

T. Lasya Lavanya¹, N.Chrysolyte², U.Manasa³, B.Karunaiah⁴, Y.David Solomon Raju⁵

Abstract : Main concentration of this project is to find out the vehicle which is met with an accident by using MEMS sensor and GPS, GSM to release Air bag. This system will be placed in a moving vehicle. The Atmel controller will poll GPS module in prefixed intervals and sends the vehicle location information (Latitude & Longitude) to central station over GSM network. Whenever any accident occurs MEMS sensor detects the vibration of the vehicle and sends mechanical force, to ARM, by using GPS. We will get particular location where accident occurs, and then GSM sends message to authorized members & 108. One best feature is whenever any authorized people gives message to GSM at accident location then it sends back the message of the accident location Long and Lat values. This project uses regulated 5V, 750mA power supply. 7805 three terminal voltage regulators are used for voltage regulation. Bridge type full wave rectifier is used to rectify the ac output of secondary of 230/18V step down transformer. This system can be interfaced with vehicle airbag system that prevents vehicles occupant from striking interior object such as the steering wheel or windows. This can also develop by interconnecting a camera to the controller module that takes the photography of the accident spot that makes the tracking easier.

Keywords: MEMS sensor, GPS, GSM, Atmel controller, 7805 three terminal voltage regulators

PRINCIPAL
MAHAVEER
INSTITUTE OF SCIENCE & TECHNOLOGY
Bandlaguda, Hyd-500 005.

* Correspondence Author

T.Lasya Lavanya¹

N.Chrysolyte²

U.Manasa³

^{1,2,3}UG Student, Department of ECE,

Holy Mary Institute Of Technology And Science, Bogaram(V) Keesara(M), Medchal-501301

B.Karunaiah⁴

Y.David Solomon Raju⁵

^{4,5}Associate professor, Department of ECE,

Holy Mary Institute Of Technology And Science, Bogaram(V) Keesara(M), Medchal-501301



IOT Based Garbage Monitoring With Weight Sensing System

P.Pravallika¹, P.Sai Pranusha², S.Poojitha Reddy³, B.Karunaiah⁴, Y.David Solomon Raju⁵

Abstract : Keeping the city clean has been always an ongoing task which needs laborious efforts of people working on ground level emptying the garbage bins whenever they are full. The event of garbage bin getting full is not strictly dependent on a time pattern, instead it sometimes becomes rapidly full or sometimes requires more than normal time to become full. IOT Garbage Monitoring with Weight Sensing paper is an innovative step towards making this process more smooth and efficient. This system monitors the garbage bins and informs about the level of garbage collected in the garbage bins via a web page. For this the system uses ultrasonic sensors placed over the bins to detect the garbage level and compare it with the garbage bins depth. In addition, we also have weight sensors attached below the garbage bins. Thus the system sends over the internet the level of fill of the garbage bins as well as the weight of the fill of the garbage bins. The advantage of this combo sensing is that the garbage bin lifting weight can also be known by the authorities. If the garbage bin is not filled up, but still the weight of fill has reached the limit of what the garbage lifting vehicles can pick up, the vehicles can be immediately driven towards that bin for evacuation.

Keywords: IOT Garbage, Sensing paper, lifting weight, lifting vehicles

K. Karunaiah
PRINCIPAL
MAHAVEER
INSTITUTE OF SCIENCE & TECHNOLOGY
Bandlaguda, Hyd-500 005.

* Correspondence Author

P.Pravallika¹

P.Sai Pranusha²

S.Poojitha Reddy³

^{1,2,3}UG Student, Department of ECE,

Holy Mary Institute Of Technology And Science, Bogaram(V) Keesara(M), Medchal-501301

B.Karunaiah⁴

Y.David Solomon Raju⁵

^{4,5}Associate professor, Department of ECE,

Holy Mary Institute Of Technology And Science, Bogaram(V) Keesara(M), Medchal-501301

E-mail : karunaiahb@gmail.com

Implementation Of Fir Filter Based On Majority Logic Using Approximate Multiplier And Compressor Circuits

Malothu Rajeswari¹, Manne Renuka²

^{1,2}Department of ECE VidyaJyothi Institute Of Technology Hyderabad, India

ABSTRACT

Approximate computation works with error tolerance in the numerical phase as a modern model for nanoscale technology, to boost efficiency and decrease power consumption. Majority logic (ML) applies to several evolving nanotechnology; its general architecture holds widely utilized for the layout of the digital circuits. In this article, FIR filter layouts by utilizing ML based approximate adders and multipliers. Area, power, and delay were the guiding variables in a digital signal processing system with a significant factor being the FIR – Finite Impulse Response filters. FIR filter architecture contains of units for multipliers, adder, and delay. The productivity of FIR filters is primarily supported by the adder and multiplier units. The implemented multipliers use approximate compressor with so-called complement bits and a reduction circuitry. In order to analyze effect of specific forms of complement bits based upon scale of multipliers, an impact factor is defined and analysed. The proposed designs show that when compared to other ML-based designs, designing FIR filter with ML-based adders and multipliers offers superior performance.

Keywords: Majority logic, approximate adder, approximate multiplier, complement bits, FIR filter.

I. INTRODUCTION

Effective low-power range high-performance VLSI technologies are widely being used in multiple areas. Digital signal processing system as well as its advances also severely affected everywhere in our modern society. We would have no modern audio and voice, modern telecommunications, automotive sectors, diagnostic imaging devices, computer technology without DSP. Finite Impulse Response (FIR) filtration is most popularly utilized Digital Signal Processing operational activities through radars which are typically done utilizing FIR filters. There are essentially two filters forms-analog and digital. Digital filters do have ability to produce even higher ratio of signaling into noise relative to traditional filters. The two basic types of filters were FIR and IIR filters. IIR filter disadvantage would be that the closed-form IIR structure is initially constrained to low passes, band passes and high pass filters.

FIR filters should have linear phase precision. This paper proposes a novel technique to implementing a high-performance FIR filter using an efficient carrying select adder with area-delay-power. Adder was a significant element for the integer array. Various adders require a complicated digital signal processing (DSP) method. An effective adder allows a complicated DSP devices function better. There are many common forms of adders. A ripple carry adder utilizes basic architecture, but this adder is primarily concerned with the carry propagation delay (CPD). Carry ahead check and carry selected (CS) approaches were used to decrease adder CPD. But we also use approximating adder circuit and Multipliers dependent on ML in this article.

Approximate devices arithmetic circuitry were thoroughly analyzed, depending on CMOS technique. The floating and fixed point layouts were built similarly by the designs of estimated adders, multiply and divisions [3-6]. Error measures including the MED, normalized MED as well as the relative MED [7] were suggested toward evaluate defects implemented into estimated arithmetic circuit procedures.

As CMOS approaches its technical limits, new nanotechnologies, as for Quantum-dot Cellular Automata [8-9], Nanomagnetic Logic [10] and SWD [11], are being suggested only at conclusion of so-called Moore's Rule. Both of these systems exist depending by using ML as the basis for computer design; it exists distinct method of

Development of a prediction model for Atmospheric Scintillations on earth-space Ka band link in Indian Climate

R.Prabhakar, T.V.Ramana

Abstract— To develop an improved new prediction model for measurement of tropospheric scintillations for Indian Climate of satellite ka band signals which is used in adaptive link control in the design of satellite communication system. Because in Indian climate will be tropical and changing seasonally. Due to small variations occurred in refractive index and rapid signal fluctuations occurred in the signal amplitude and angle of the signal in turbulent layer when the received signals passing through it, then. This is called scintillation. The scintillations more significant in ka band signals. Propagation experiment carried out at The SAC of ISRO on Ka-band over India. To this purpose, the GSAT-4 satellite will board two antennas at 30.5GHz and 20.2GHz in linear polarization.

Keywords: Refractive Index, Monthly averaged pressure, Monthly averaged Temperature, Relative Humidity and Height, Ka band, Tropospheric scintillations.

INTRODUCTION

Scintillations

Solar Energy from sun heats up surface of the earth results in turbulent at the boundary layer causes small scale fluctuations in radio refractive index, when the received satellite signals are passing through the turbulent layer, fast fluctuations occurred in radio refractive index fluctuations occurred within the 4km range called troposphere scintillations. These fluctuations in signal amplitude more significant in small aperture antennas and Ka band frequency for low availability SC Systems.

Scintillations caused by

Gradients and Convective heating produces turbulence, scatterers random distribution produces pure scattering and rain drop size distribution of variations produces apparent scintillations.

The scope of Satellite Communication will continue at a rapid pace over the globe in the years to come. Thus there is a need to expand Satellite Communications to higher frequency bands. There is a worldwide interest, including for ISRO (the Indian Space Research Organisation), in using the Ka Band in future Satellite Communication Systems. The Ka band frequency advantages for SC than C and Ku bands. The equipment size and interference reduced by spectrum availability to improve service quality. Deterministical and statistical models are available. Physical descriptions for deterministical phenomenon, but

statistical models are practically used. The effect of the Earth's atmosphere on 30/20 GHz frequencies, the performance of statistical models over region of interest need to be tested and the most accurate ones should be recommended for use. An opportunity has been proposed by SAC of ISRO to carry out a propagation experiment at Ka-band over India [3]. To this purpose, the GSAT-4 satellite will board two propagation antennas at 30.5GHz and 20.2GHz in linear polarization. For performance measurements, to install equipments are Earth stations, radiometers, microwave radars, meteorological sensors to perform the measurements, and to process and analyze the data. This new propagation experiment is a nice opportunity to test both statistical prediction methods. The main outcome of data collection and analysis, will be to develop/recommend a technique for fading prediction of radio wave propagation in Ka Band over Indian tropical areas and to develop suitable model. The major objectives of conducting Ka band propagation experiment are: 1. Getting experimental time series of tropospheric impairments in tropical regions at Ka band for new Satcom air interface performances assessment. 2. Study of tropospheric scintillation at Ka band. 3. Getting meteorological data in tropical region and compare with prediction models.

The main outcome of the Ka band propagation experiment will be: *f* Validation and selection of a suitable over Indian Tropical region. *f* Assessment of performance, based on validation of frequency scaling technique. *f* Selection and validation of suitable tropospheric scintillation prediction model.

India is a unique country with great diversity of geographic features, rainfall and climate. For the site selection the following criteria were considered:

- Different meteorological conditions
- Different geographical regions
- Different elevation angles to satellite

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R.Prabhakar, Research Scholar, GIT University, Vizag, Andhra Pradesh, India

T.V.Ramana, Associate Professor, Department of ECE, GIT University, Vizag, Andhra Pradesh, India

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Estimation of Tropospheric Scintillations for Indian Climatic Conditions at Ka-Band Frequencies

R.Prabhakar, T.Venkata Ramana

ABSTRACT— To estimate the scintillations effects in troposphere for the Indian climate. Here the scintillations are the one of the most important prop-agation impairment at high frequencies(>10GHz) and low elevation angles(<10°) in the satellite communication systems particularly in adaptive link control systems design. India's climate is tropical climate and vary with respect seasonally.

Up to below 4 km range atmosphere is called tropical region. Scintillations defined by received signal passing through this tropical climate which has turbulent mixed up with rapid signal fluctuations because due to the solar radiation earth surface heated up and small scale variations occurred in refractive index of the medium[1].

Keywords - Temperature, Pressure, Humidity, Scintillations. Ka band frequency, elevation angle.

I. INTRODUCTION

Due to the heat energy from sun incident on earth's surface warms-up, molecules are excited and at the boundary turbulent layer created. When the received are passing through this turbulence layer and mixed up and small scale variations occurred in refractive index of troposphere, due to rapid fluctuations in amplitude and angle of the received ka band frequency signals when propagating along path. Scintillations are occurred due to convective heating and gradients produces turbulences and apparent scintillations due to variations in rain drop distribution[1].

Ka band future satellite communication systems using ISRO. By reduced availability of spectrum and reduced interference leads in the quality of service improvement. For that available some Statistical models which are used in practice. In the ka band frequency statistical model performance to be tested for most accurate one should be recommended for the use. One of ISRO centre of SAC proposed propagation experiment at Ka band over Indian Climate. The satellite used, with linear polarization, measurements equipments Earth station, microwave radars, metrological sensors, radio meters are installed for the measurements to analyse and process data. Two methods used for statistical prediction .An outcome of data collection and analysis would be recommend a technique for prediction of scintillations in ka band over Indian areas and to estimate scintillations in tropical climate at 30/20GHz region. India has unique future that it has a tropical climate with different metrological conditions, various geographical

regions and rainfall rate areas and different elevation angles for the satellites.

Satellite communication: Geo satellites at Ka band links from sub satellite point in latitude or longitude beyond 81.34° not visible.

An elevation angle decreases at the visible portion from sub satellite zenith point to zero, evolution path of circular fringe to satellite from sub satellite point of longitude at latitude from 0 to 81.34° and longitude 10° of earth station . At 70° latitude the maximum elevation angle 11.5° and at 80° latitude decreased to 1.33°. Ray bending and ducting due to Scintillations and large scale refractive index produces fades of 20dBs. The minimum elevation angle of 5° uses commercial systems[6].

GSAT 4

Metrological data collected from different sites in India at Ka band. The different attenuation characteristics are presented for various locations at Ka band for common interface and common design of system. Metrological equipments are identical in all the sites. Equipments: Ka band receiver(beacon), distrometer, radiometers, mw rain radar, tipping bucket rain gauge, data loggers and automatic weather stations[9].

Table1:GSAT Specifications at Ka Band

Carrier frequency	GHz	20.2	30.5
polarization	-	Linear V&H	Linear V&H
isolation	dB	30	30
EIRP	dBW	24	24
		+7	+7
		+1	+1
Stability of frequency	ppm	-55	-55
		-60	-60

Earth station

Received power will be measured by earth station from satellite transmitter at 30.5GHz and 20.2GHz, antenna diameter of 120cm, down converted to 20MHz and 10MHz respectively, bandwidth of 300KHz dual stage frequency conversion.to produce differential in phase and quadrature signals used for find the beacon signal amplitude and phase of satellite using fast fourier transform. Receiver allowed

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R.Prabhakar, Research Scholar, Gitam University, Visakhapatnam, A.P, India.

Dr.T Venkata Ramana, Assoc Prof, ECE, Gitam University

Konki
PRINCIPAL
MAHAVEER
INSTITUTE OF SCIENCE & TECHNOLOGY
Kandaguda, Hyd-500 005.



Diurnal Behaviour of Tropospheric Scintillations at Ka band Frequencies for Indian Climate Conditions

Rupaka Prabhakar, Abhishaktha Varma Teppala, T.Venkataramana

Abstract: In this to study the diurnal behavior of scintillations at ka band frequencies for Indian tropical climate conditions. Scintillations are the most significant important propagation impairment at ka band frequency. To minimize this effect need to study the complete behavior of scintillations. Because the scintillations are vary with respect time(day and night),the metrological parameters temperature and relative humidity are more effected on the scintillation variations.

Keywords :Diurnal behavior, Scintillations, Ka band frequency, Temperature and relative humidity.

I. INTRODUCTION

Due to the solar radiation, the ground surface heated up and the boundary layer of atmosphere exited at the boundary of turbulent layer, due to convective activity small scale variations signal fluctuations are occurred in received signals, when these signal are passing through turbulent layer mixed-up and rapid signal variations occurred in signal amplitude and angle ,these mean level signal are called scintillations. These are more significant at low elevation angle and ka band frequency. India is a tropical country and very hot and cloudy thought the year. Scintillations are more significant at long term uniform temperature and relative humidity. And the scintillations are function of refractive index and refractive index is function of radio refractivity. Radio refractivity is a function of temperature and relative humidity.

II. DIURNAL BEHAVIOUR DUE TO TEMPERATURE

The measured raw data collected for four years from 2014 to 2018 for the study of long term troposphere scintillations in Indian climatic conditions .Here temperature t1 indicates the day time that is 12 am at 00z hour. And t2 indicates the night time that is 12pm at 12z. And considered averaged data for each month of four years of measured data. The graphical representation shown in figure 1. gives the monthly averaged temperature behaviour for the four years. Night time temperature effect is more than day time temperature thought the average year except the December month

Table 1. temperature at day and night times

Long Name	MONTH	temp_12pm(0	temp_12am(12Z)	avg temp
Units		C		
1	jan	21.32	19.479	20.3995
2	feb	22.6	21.8065	22.20325
3	mar	32.725	25.0865	28.90575
4	apr	33.373	25.10225	29.23763
5	may	34.22	26.2005	30.21025
6	jun	27.1	23.8535	25.47675
7	jul	25.65	21.2575	23.45375
8	aug	24.832	21.2326	23.0323
9	sep	26.65	21.3025	23.97625
10	oct	26.04	22.8865	24.46325
11	nov	24.434	20.778	22.606
12	dec	21.45	19.99	20.72

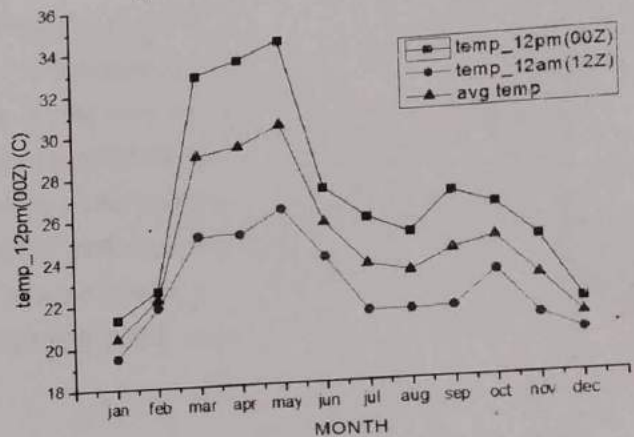


Fig1. Temperature behaviour at day and night times

III. DIURNAL BEHAVIOUR DUE TO RELATIVE HUMIDITY

Here Rh1 relative humidity indicates the night time that is 12 pm at 12z hour. And Rh2 indicates the day time that is 12am at 00z. And considered averaged data for each month of four years of measured data. The graphical representation shown in figure 2. gives the monthly averaged relative humidity behaviour for the four years. Day time relative humidity effect is more than night time relative humidity thought the average year except the February and December months.

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Rupaka Prabhakar, Asst. Professor, Mahaveer Institute of Science and Technology, Hyderabad, T.S. India.

Abhishaktha Varma Teppala, Final Year, Dept of ECE, Gitam Deemed to be University, Visakhapatnam, A.P, India

TV Ramana, Assoc. Professor, Dept of ECE, Gitam Deemed to be University, Visakhapatnam, A.P, India



Clock Gated Low Power FFT Architecture for Software Defined Radio

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Pujari Sr dhar and Dr.C.R. Byrareddy



Abstract

In modern digital world requirements for a highly efficient low power Software defined radios (SDR) are in demand since the evolution of advanced digital gadgets. Fast Fourier Transform (FFT) is the major building block of SDR architecture. FFT architecture consists of multipliers, block Random Access Memory (RAM) and Read Only Memory (ROM) memories for storing predefined twiddle factors and intermediate stage results while processing. Clock gating approach for limiting the switching activities of the FFT computational units are discussed in this paper. FFT operation requires sequence memory accessing so a ring counter can be substituted instead of an address decoder. A pre clock predicting C-element is utilized to control the clock tree architecture to isolate the ideal counter blocks of the ring counter. A Gated driver tree is further employed to control the loading time of the FFT memory blocks. Atypical 8-point FFT architecture with adaptive clock gating and data driver trees are designed and implemented in Hardware Description Language (HDL) modeling and tested with Cyclone II FPGA platform. The presented clock gated FFT architecture results in 50 % power reduction than the conventional FFTs.

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K. Srinivas
PRINCIPAL
M. JAYVEER
INSTITUTE OF SCIENCE & TECHNOLOGY
Bandlaguda, Hyd-500 005.

The Analysis of Rectangular Patch Antenna for X Band Applications

¹Karunaiah Bonigala, ²Dr.P.V.Sridevi,

¹Ph.D Scholar, Dept. of ECE, AU College of Engineering(A), Visakhapatnam, AP, India.

²Professor, Dept. of ECE, AU College of Engineering(A), Visakhapatnam, AP, India.

Abstract- A novel rectangular patch antenna with transmission feed for X band applications is presented. The single resonant modes of rectangular patch antenna simulated by transmission line feeding by varying the length of the patch, the resonant frequencies are changed. The rectangular patch has operating frequency of 7.3 GHz with return loss -26.02 dB. The proposed antenna has good performance, high radiation efficiency.

Key words- Rectangular patch, X band, transmission line feeding.

I. INTRODUCTION

The rectangular micro strip patch antennas (MSPA) are widely used in the wireless satellite communication and modern radar communication systems. The X-band antennas are used in ISM (industrial, scientific and medical) applications.

Amit A deshmukh proposed rectangular patch antenna with U shaped and V shaped slots for dual band, broad band applications. The slots are cut to the patch either quarter wavelength or half wavelength and surface, current distributions for dual band frequencies of rectangular patch antennas are studied, the operating frequencies are second order orthogonal mode, the radiation patterns in two principle planes [1]. Hui Gu proposed the circularly polarized rectangular patch antenna with rectangular ring slot, four varactor diodes are placed symmetrically using co axial feeding to improve the circularly polarized from 1.92 to 2.51 GHz, omni directional radiation pattern and improve the efficiency from 47 % to 61 % as operating frequency [2]. Cylindrical rectangular bending antennas for wearable applications and resonant frequency variation and radiation variations are studied [3]. The slotted patch antenna with co planar waveguide for dual band applications, the two types of shaped slots are introduced to rectangular patch and use of slots at multi resonant modes with good impedance bandwidth. The upper bandwidth for ultra wide band and lower bandwidth for WLAN applications, the band has monopole like radiation pattern for satellite applications [4]. The rectangular loop shaped antenna to enhance the gain with parasitic radiator [5]. The 4x 4 rectangular micro strip patch antenna for wireless power transmission [6], rectangular CPW antenna for broad band applications [7]. The rectangular patch antenna with co axial feeding for WLAN, WiMAX and WBAN applications and good efficiency bandwidth [8]. The bowtie has high impedance bandwidth [9], star polygon with concentric

circular DGS for WLAN, WiMAX applications [10]. Circular ring patch antenna with DGS for wide bandwidth, triple band applications [11-14].

The proposed rectangular patch antenna with transmission feed operated at 7.3 GHz with return loss of -26.02 dB. This X band is very much useful at radio frequency identification (RFID), applications to protect the cross polarization.

II. ANTENNA DESIGN GEOMETRY

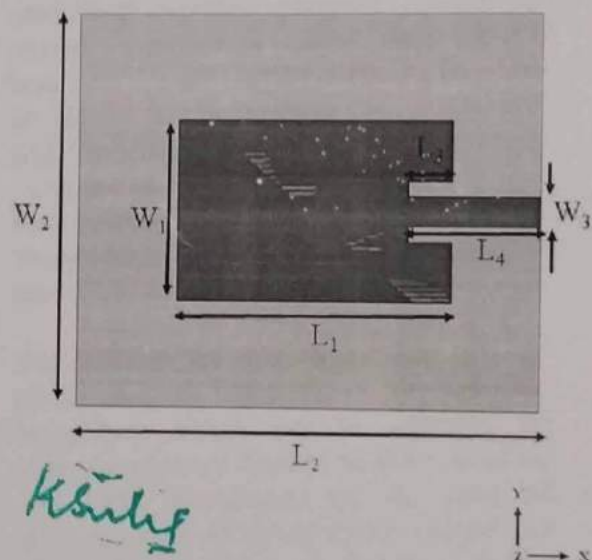


Fig. 1 : Geometry of the proposed rectangular patch with transmission line feeding.

The rectangular patch antenna with transmission line feeding for X band applications shown in Fig. 1. The FR4 epoxy material is used for fabrication of substrate with length (L_2) 32mm, width (W_2) 26mm and Substrate has dielectric constant of 4.4 with thickness of substrate 1.6 mm. The rectangular patch is placed on top of the substrate and copper material with tangent loss of 0.002. The 50 ohms input impedance is connected to rectangular patch antenna. The optimized parameter values are shown in TABLE I. The return loss of the proposed antenna increases due to the placing transmission line on rectangular antenna.

IMPLEMENTATION OF IOT BASED ICU PATIENT MONITORING SYSTEM

B.KARUNAIAH

Associate Professor,
Department of ECE, Holy
Mary Institute of
Technology and Science,
Telangana, India

E. SRI KRISHNA

Assistant Professor,
Department of ECE, Holy
Mary Institute of
Technology and Science,
Telangana, India

CH. REKHA

Assistant Professor,
Department of ECE, Holy
Mary Institute of
Technology and Science,
Telangana, India

Abstract— *this proposition targets building up a framework which is fit for transmitting the patient's medicinal parameters like pulse, temperature and oxygen accessibility remotely to the specialist's segment. Innovation is being utilized wherever in our day by day life to satisfy our necessities. We are utilizing various sensors for various applications some of the time we may even utilize same sensors contrastingly for various applications. Whatever it might be the last yield is life has sped up with the innovation sponsors. One of the perfect methods for utilizing innovation is to utilize it to detect genuine medical issues with the goal that proficient medicinal administrations can be given to the patient in right time. This IOT based framework utilizes heartbeat sensor which ceaselessly gives the heartbeat, temperature sensor which gives the temperature, a weight sensor which helps in observing the oxygen content in the chamber, Wi-Fi for remote transmission, Android based advanced cell or tablet as collector and show module. The controlling gadget of this venture is Arduino UNO. The therapeutic parameters are sent to the specialist's segment through Wi-Fi organize and showed there when mentioned by specialist through Android advanced mobile phone.*

Keyword— *IOT, micro controller, technology boosters, wireless transmission, oximetry, heartrate monitor sensor.*

I. INTRODUCTION

Innovation is being utilized wherever in our every day life to satisfy our necessities. We are utilizing various sensors for various applications now and then we may even utilize same sensors distinctively for various applications. Whatever it might be the last yield is life has sped up with the innovation sponsors. One of the perfect methods for utilizing innovation is to utilize it to detect genuine medical issues so proficient therapeutic

administrations can be given to the patient in right time.

Emergency unit ICU is the place the patients who are fundamentally sick are conceded for treatment. For such basic conditions the Doctors need to have an untouched update patient's wellbeing related parameters like their heart heartbeat and temperature. To do physically, this is too dreary an assignment and furthermore for numerous patients it turns out to be near unthinkable. For this sort of circumstances this IOT based framework can achieve a mechanization that can keep the specialist refreshed.

The working of this gadget depends on reality that the blood flows for each one heart beat which can be detected by utilizing a circuit framed by the mix of an and LED. Contingent on the pace of dissemination of blood every second the heart beat rate every moment is determined. This gadget comprises of a miniaturized scale controller which takes the contribution from the heart beat sensor and ascertains the pulse of the patient. The miniaturized scale controller additionally assumes the liability to pass on a similar data to the remote versatile utilizing IOT.

II. Embedded Systems

An implanted framework is a PC framework intended to perform one or a couple of committed capacities frequently with continuous figuring requirements. It is installed as a component of a total

Research of Dumbbell Shaped DGS to Enhance The Bandwidth and Multiple Band Applications

Karunaiah Bonigala, P.V.Sridevi



ABSTRACT—A monopole microstrip rectangular patch with dumbbell shape slotted on ground for multiple band, enhance the bandwidth. The proposed antenna is fabricated on FR 4 epoxy material with electrical permittivity of 4.4 and magnetic permeability 1. The dimensions of proposed antenna are $70 \times 50 \times 1.6 \text{ mm}^3$ and the dumbbell shape is slotted on ground of substrate which resonates at four different frequencies 5.9 GHz, 7 GHz, 8.7 GHz and 9.7 GHz. The proposed antenna has bandwidths of 200 MHz, 300 MHz, 300 MHz, 300 MHz at four resonant frequencies. The proposed antenna covers 4/8 GHz C band, 8/12 GHz X band and used in radar, satellite communications. The reflection coefficient (S_{11}), radiation characteristics, peak gain and VSWR of designed antenna are described

Keywords- Rectangular patch, Multi band, Dumbbell DGS.

I. INTRODUCTION

The printed monopole antennas have wide growth in wireless technology and these have high gain, high efficiency, broad impedance bandwidth and planar. The defected ground structure has exponential growth with capacitive, inductive and the researchers are interested to develop DGS because of their compact size, easy to design two dimensional and three dimensional structure, easy to fabricate and broad bandwidth. Boutejdas proposed a H shaped DGS, coupled DGS for wide rejection of LPF, low insertion loss and mobile communication systems and equivalent circuit model is drawn for defected ground structure [2-3]. Amit A Deshmukh proposed rectangular patch antenna with U shaped and V-shaped slots for dual-band, broadband applications. The slots are cut to the patch either quarter wavelength or half wavelength [4]. DivyaAshirwar develop a decagon shaped monopole patch applicable for multiple band like Wi-Fi, Wi MAX band and WLAN band, introduced the valley shape to increase the impedance band, radiation efficiency [5]. The microstrip patch has I shaped patch, partial ground plane for bandwidth enhancement, triple band applications [6], curved slot on rectangular patch with partial ground plane to enhance the bandwidth, useful for 2.4/5.2/5.8 GHz, 2.5/3.5/5.5 GHz and improve the gain of proposed antenna [7], partial slot on ground plane for dual band, minimize the antenna size,

stable radiation pattern [8]. Rectangular parasitic to enhance broad and U shaped DGS creates the higher order resonances, improve the radiation efficiency of 37 % and higher gain 5.2 dB[9] dumbbell shaped microstrip with partial ground plane used in space and satellite communications, improve the surface efficiency [10].

Manish developed the circular patch with corrugated ladder shaped ground for ultra-wide band and lower order resonances are created because of circular slot on circular patch [11]. The circular patch with defected ground plane for multiple band has stable omnidirectional, bi directional radiation pattern over ultra-wide band applications [12]. rectangular antenna with symmetrical placed circles in ground plane for dual band applications [13]. The researchers developed rectangular, circular shape patch with different kinds of slotted ground and useful for satellite over wireless communications and high gain, stable radiation patterns. Generally the circularly polarized microstrip antennas have very high input impedance on edges, to control the image impedance matching using DGS on ground plane. The design of rectangular antenna has slotted dumbbell shape on ground for multiple-band applications.

II. ANTENNA DESIGN GEOMETRY

The dumbbell DGS has two rectangular slots connected by one narrow slot which are etched from perfectly electric conductor coated on metallic ground plane. The surface waves are propagating through two patches. The dumbbell DGS is implemented for low pass filter, control the image impedance by placing DGS on ground. The overall dimensions of proposed antenna are $70 \times 50 \times 1.6 \text{ mm}^3$, FR4 epoxy material for substrate (electrical permittivity=4.4), copper, perfect electric conductor (PEC) for patch and ground plane. The length (L_s), width (W_s) considered as dimensions of dumbbell. The reflection coefficient ($S_{11}=-10\text{dB}$) parameter results from 7.2 GHz-7.5 GHz for rectangular patch.

When introduction of dumbbell shaped DGS on ground plane, the reflection coefficient parameter from 5 GHz to 10 GHz and impedance bandwidth is improved from 30 % to 150 %.

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* Correspondence Author

Karunaiah Bonigala*, Research Scholar, Dept. of ECE, AU College of Engineering (A), Visakhapatnam, AP, India.

Dr. P.V.Sridevi, Professor, Dept. of ECE, AU College of Engineering (A), Visakhapatnam, AP, India.

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ibh
PRINCIPAL
MAHAVEER
INSTITUTE OF SCIENCE & TECHNOLOGY
Bandlaguda, Hyderabad-500 005.



Low Power Fault Free Coding Design for Cam Interface

K.Suresh Kumar, Y.Rajasree Rao, K.Manjunathachari

Abstract: In the design modeling of a CAM interface, the controlling and access operation defines the performance of memory interfacing. In a CAM application, data stored in the Memory units are mapped to a given query input and an output is developed as a match signal to which a decision is made. In the process of CAM operation, to obtain a faster matching and low power consumption, a new search approach and pattern alignment logic is defined. To improve the storage capacity of a CAM unit, a multi page interface is proposed. To the defined unit a new fault tolerance approach is integrated for a reliable, low power and fast processing CAM application.

Index Terms: CAM unit, low power, fast search, high volume, fault tolerant.

I. INTRODUCTION

With the diversity in data accessing, and emerging new technologies, new mode of data access are evolving. With this increment, the computation probability of data validation for data exchange or security concern is increasing. In a real time interface to govern data exchange router units are interfaced. Wherein to give a security monitoring firewalls, antivirus etc., are used. these application operate on a permanently defined memory content to which a input data is matched to obtain a validation of given data. this operation is performed with the support of a content based addressable memory (CAM) unit. The CAM units are used as a database storage where a pre defined data are trained and on the requirement accessed to give a result. As the access probability are becoming dynamic with new technologies such as heterogonous network, cloud computing, distributed servers etc., the enhancement in performance reliability and efficiency of CAM interfacing is needed. To improve the performance of CAM interfacing, various developments were made in past. [1], [2] uses finite automata or hashing methods. A simple discrete analyzer or a simple CAM interface has the advantage of performance however the cost of the area implemented is large [3],[4]. The simplest and usual addressing approach overrides the higher area constraint, but reduces the operational performance. A method to increase the design performance by characteristic contrasts of regular expressions applied to minimize search time is outlined in [5-8]. Each character is represented as a single wire resulting in a specific volume of the memory. This approach increases the character input and reduces the gate counts. For binary expression form a binary deciding diagram (BDD) method has been raised to more than one addresses representing a tree core based structure. This minimizes the area of implantation to a low count compared to exiting CAM interface. The CAM access is however needed to be focused for fault tolerance to minimize the error effect. In [9,10] an

objective of fault tolerance in memory interface is presented. However, the process of fault tolerance on the interface of memory access is CAM addressing not defined. In recent years, IDS has been proposed to map with different applications for security concern. [11] uses the map to view the rest of the address and the recording in the memory. An FPGA implementation of the bit split string has been introduced in [12]. In [13] method for Connecting the AC State Machines states are suggested to reduce the memory size. Also, to specify the size of the memory, label transition table and a CAM based lookup table is introduced in [14]. In [15, 16] a hash-based pattern that matches the co-processor, using the memory to buffer list of strings and state transitions is outlined. Modifying the pattern algorithm suggested AC algorithm for observing multiple characters at once. Also, the content of the CAM used to match the string is widely used in different applications even under the content shift on the memory.

These developments were focused with the objective of faster mapping approach. however, with the emergence of new technologies and new devices, the constraint in resource demands for new solution. In this paper a new architecture with the objective of faster, low power, high volume and fault free condition is proposed. to outline the suggested approach this paper is defined in 6 sections. Wherein section 2 outlined the conational CAM interface architecture with the proposed architecture. Section 3 outlines the functional detail of the proposed architecture. Section 4 outline the simulation results and section 5 conclude the presented approach.

II. CAM INTERFACE ARCHITECTURE

CAM unit are developed as an interface unit in accessing data from a pre allocated memory location . where in the match of content, a data is retrieved. The conventional operation of CAM unit is illustrated in figure 1.

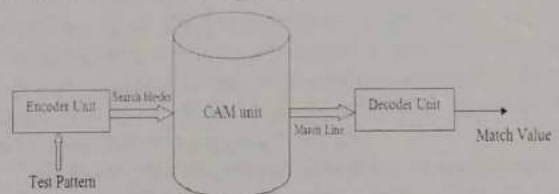


Figure 1: Interface unit for CAM unit

The unit is operated by an encoder and a decoder unit, where, the operation architecture of the encoder and the decoder unit is illustrated in figure 2.

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K Suresh Kumar, Department of Electronics and Communication Engineering, SSJ Engineering College, Hyderabad, India.

Y. Rajasree Rao, Department of Electronics and Communication Engineering, St.Peter's Engineering College, Hyderabad, India.

K. Manjunathachari, Department of Electronics and Communication Engineering, GITAM University, Hyderabad, India.

Evolutionary Channel Sharing Algorithm for Heterogeneous Unlicensed Networks

P.BHARGAVI¹, K.SURESH KUMAR², SAVADAM BALAJI³

1 P.G Student, Wireless and Mobile Communication

2 Associate Professor, Dept. of ECE, MRIET.

3 Professor, Head of Dept, ECE, MRIET

ABSTRACT: Channel sharing in TV whitespace (TVWS) is challenging because of signal propagation characteristics and diversity in network technologies employed by secondary networks coexisting in TVWS. In this paper, the TVWS sharing problem is modeled as a multiobjective optimization problem where each objective function tackles an important coexisting requirement, such as interference and disparity in network technologies. We propose an evolutionary algorithm that shares the TVWS among coexisting networks taking care of their channel occupancy requirements. In this paper, the channel occupancy is defined as the time duration; a network desires to radiate on a channel to achieve its desired duty cycle. Simulation results show that the proposed algorithm outperforms existing TVWS sharing algorithms regarding allocation fairness and a fraction of channel occupancy requirements of the coexisting networks.

1. INTRODUCTION

With the rapid development of technology, the need for access to wireless Internet has become a daily necessity. Ties have created severe congestion in the frequency spectrum, especially in urban areas where the number of users is consistently high. This exponential increase in broadband traffic has underscored the need for a more efficient and opportunistic use of the available spectrum. Researchers have highlighted the underutilization of licensed portions of the spectrum as a potential opportunity in addressing the spectrum congestion problem. The use of already licensed portions of the spectrum would be enabled by cognitive radios, which behave as secondary users and use the spectrum whenever the primary users, i.e., the license owners, are not using it. A cognitive radio (CR) is a radio that can change its transmission parameters based on interaction with the environment in which it operates [1]. The use of such radios has been approved both by US and UK regulatory bodies, in 2009 and 2012 respectively [2]. The move was motivated by the digital transition in TV broadcasting, which made large swathes of TV spectrum accessible for opportunistic use. Ties portion of the spectrum is referred to as TV White Space (TVWS) and its capacity is quite high. According to Ofcom research, there is more than 150 MHz of interleaved spectrum in over 50% of locations in UK and 100 MHz of interleaved spectrum in 90% of locations [3]. However, the availability of TVWS spectrum varies from country to country and depends largely on the channels chosen for TV broadcasting. Most available (unused or vacant) channels can be found in less densely populated areas, such as in developing countries or rural areas [4, 5]. Frequency bands corresponding to TVWS spectrum are: VHF 30-300 MHz and UHF 300-1000 MHz except for the channels reserved for emergency transmissions. In Europe a challenging aspect of TVWS use is that TV spectrum is not only occupied by fixed TV broadcasting signals but also by licensed Programmed Making Special Event (PMSE) devices, e.g., wireless microphones used in small events, concerts or security agencies. PMSE can operate in licensed or unlicensed basis. The detection of such equipment is the subject of

research project [6]. Furthermore their protection should be guaranteed based on legislative regulations [7].

2. RELATED WORK

The TVWS database is a central database, managed by reliable authority that contains information on all primary user's operation characteristics, such as: transmission power, allocated channels and usage patterns, location, etc. Secondary networks/users must send a query to this database to ask for available channels in their location. It can be noted that location is usually determined based on GPS connection, which may be available for certain types of secondary devices. Therefore, it is most likely that fixed devices will be used in rural areas where the conditions will change slowly, whereas portable devices will be more appropriate for use in metropolitan areas [20]. Sensing only devices are devices that independently sense the radio spectrum in order to detect primary users and avoid harmful interference with them. Tier maximum transmit power is 50mW. They are able to sense digital TV, analog TV and wireless microphone transmitted signals at -114dBm. Sensing is performed periodically to determine the availability of a channel, and afterwards, when the channel is allocated, sensing is performed repeatedly over a longer period. Once any kind of signal is detected, within the spectrum they are operating in, these devices stop transmitting within 2s [1, 2]. The cognitive radio devices (CRs) are allowed to operate in most of the channels except those that are reserved for public safety or commercial use. Related work shows that the number of available channels in indoor cases is also significant [2, 3]. It is envisioned that CR networks will be used for the following applications [2]:

- (i) Wide area broadband provision to rural areas
- (ii) Future home networks and smart grids
- (iii) Cellular communications
- (iv) Public Safety.

3. PROBLEM STATEMENT

Coexistence protocols employed by collocated CRNs work under the assumption that all spectrum bands afford the same level of QoS and do not take into consideration the fact that these channels can be heterogeneous. The heterogeneity

Reducing Power in Content-Addressable Memory by pseudo nMOS Cell

N.Naveen Kumar

Dept of ECE
MRIET

naninaveen714@gmail.com

K.Suresh Kumar

Dept of ECE
MRIET

suresh233661@gmail.com

R.Manasa Reddy

Dept of ECE
MRIET

manasamanureddy14@gmail.com

Abstract— content address memory a huge bulk of power is broadly distribute charge and recharging utmost of this game follow on utmost course. That new small power content address memory cell along a individual bit edge architecture act scheduled via break this difference capability of the cam design. This scheduled content address memory cell can break almost half of huge co-actions filling and the ordinarily convert about two reciprocal bus lines follows. The content address memory conversation route architecture is fixed pseudo N metal oxide semiconductor sense framework along a preoccupation way is recycled to forcefully bypass the ordinarily convert in same lines. The content address memory arrangement is situated on Complementary Metal-Oxide Semiconductor action among 2.5Volts power supply voltage. The capability utilization of this scheduled content address memory is 16.38mW bottom 300mhz operations.

Keywords— Low-Power, Stable circuits, Content addressable memory, CAM cell and Pseudo NMOS.

I. INTRODUCTION

Content addressable memory either related recollection the stash gadget whatever is to be abode the mine content any bit of Content addressable memory cells combine analogy philosophy. Memory amount of input to the Content addressable memory is together related along all the gathered data .the matched conclusion of the Content addressable memory cells is the.

Comparable location. Therefore, Content addressable memory has a act asset over fresh recollection research algorithms de- the coincident utilization of the choose advice across the full listed presided endless. Content addressable memory entirely analogy Content addressable memory serves hugely adequate circuit. Planning is huge speed memory inquiring affair. Content addressable memory work for recycled in extensive field of functions being lookup tables, table information.

Newly design velocity speeding circuit count cycle is object Gigabit internet asynchronous relocation. Reversal the huge speed truth tables huge speeds along with a less. Lower are needed to be delight condition is use increasing edge appliance. One large issue of Content addressable memory architecture related to SRAM architecture its elaboration. This are additional transistor are additional wiring in every cell, required for this inquiring efficiency. One more complication is there bundle of the capability utilization. The full fundamental in their Content addressable memory is permeate entire access location the RAM alone is part not new cells are accessed.

The scheduled is fixed is constraining is capability utilization of that Content addressable memory format. This paper a advanced Content addressable memory cell designs follow construction of N Metal-Oxide Semiconductor Content addressable memory word circuit such accomplish low-power and huge fidelity appearance. The approach of the N metal oxide semiconductor Content addressable memory word design is define in section and peruse the port whatever familiarize the convention Content addressable memory cells are the scheduled Content addressable memory cell architecture. Reproduction result and the closure are conferred commonly.

II. CONCEPT OF CONTENT ADDRESSABLE MEMORY

The current Content addressable memory construction, this circuit construction the Content addressable memory word format is design by is effective Complementary Metal-Oxide Semiconductor design the develop all design act and circuits rate. Fig.1 showing the current Dynamic Content addressable memory design .the driving phasing recharge In the recharge phases, the output circuit matched Sensing nodding is recharging to the Vdd. by the mpi transistor In the valuation phasing the output node condition. Discharging by two mn1 and mn2 transistor Connect to Vss.

Therefore the result charge, discharge all cycles beside this matched line. That, it utilizes large capability distraction [1]. However, there is some fault of this dynamic circuit use in CAM word. One of the dynamic design need and bonus recharge time too charge this result Vdd. advance design the same problems the charged splitting are the noising margins problems. The huge clocking load exists in the all design. Huge capability expenditure. The Content addressable memory construction, which a m words Content addressable memory word are charge the discharging as this matched cycle. Fifth, it is the need as a sense amplifier.

Resultant node voltage of this circuit design by simply interface is more of factor is a similar noise flow in current and the charge distribution. There is it use the sense amplifiers are right the amplifying result voltage signal. Erase the atop drawback the, Content addressable memory word design format. Result true bits the link. The mpp1 and mn1 tree terminal device to obtain that it a true or false. Otherwise V=0 MN1 transistor is roll offend mpp transistor is roll on. Later the output voltage is terminating is testing result of the Content addressable memory cells.

System Capacity Improvement by on Request Channel Allocation in LTE Cellular Network

B.VINOD, M.SRINU

Assistant Professor, Department of ECE, Mahaveer Institute of Engineering & Technology, Hyd

Abstract - Long Term Evolution (LTE) has introduced Femtocells technology in cellular mobile communication system in order to enhance indoor coverage. However, the impact of Femtocells on the performance of the conventional Macrocell system leads interference problem between Femtocells and pre-existing Macrocells as they share the same licensed frequency spectrum. In this paper an efficient method to mitigate interference and improve system capacity in the existing Femto-Macro two tier networks is proposed. In the proposed scheme, a novel frequency planning for two tiers cellular networks using frequency reuse technique is used where Macro base stations allocate frequency sub-bands for Femtocells users' on-request basis through Femtocells base stations to cancel interference by improving system throughput.

index terms - Frequency Reuse (FR); resource allocation; Femtocells; interference management; Long Term Evolution (LTE); OFDMA; Macrocell

I. INTRODUCTION

In recent years, telecommunication operators experience tremendous demands from the mobile applications of broadband networks. Effectively dealing with the issues of the lacking coverage has become the challenging task. The Femtocells are presented as one of the candidates by the Third Generation Partnership Project (3GPP) Long-Term Evolution (LTE) [2, 3]. Femtocell is the latest step towards improving the quality of service for cellular users and enhancing the system capacity of a wireless network. A traditional cellular network overlaid with Femtocells can provide better system capacity, quality of service and enhanced coverage. The Femtocells serving as the small-scale base stations are embraced to enhance the system throughput by extending the coverage of the domestic areas such as offices, hotspots, residences and apartments. The dead zones can be covered and the spectral utilizations can be enhanced for cellular systems [4]. As opposed to conveying more Macrocells, the deployment of Femtocells is an economical option due to its low power consumption and low cost

II. BACKGROUND

Interference between Femtocell and Macrocell has been noticed by many alliances and has been solved to some extent but there are still some issues such as co-channel interference

between Macrocell and Femtocell still needs to be addressed. Thus, in this section an effort is made to understand and analyze the work carried out by different authors on to mitigate the interference and different approaches used by them to suppress the co-channel interference between Macrocell and Femtocell. To mitigate the interference, several adaptive approaches have been proposed. Some of these approaches are: fractional frequency reuse (FFR) method [9-10], soft frequency reuse (SFR) method [11], semi static frequency reuse method [12] and adaptive frequency reuse method [13]. Fractional frequency reuse (FFR) [14] and soft frequency reuse (SFR) [15] methods have been proposed to achieve frequency reuse factor I and reduce ICI in LTE networks.

In FFR, the system spectrum is divided into two non-overlapping bands, referred to as inner and outer bands. The inner band is reused in every inner cell region to serve users near the cell center while the outer band is shared by outer cells to serve users located in cell edge, with a reuse factor greater than 1. SFR scheme has been proposed as an alternative to FFR scheme [14], [15]. SFR differs from FFR in that the whole spectrum can be reused in every cell. In SFR the spectrum in each cell is divided into two groups, major and minor subcarriers. The major subcarriers can be used by users located in both inner and outer cell regions and they are orthogonal to each other in adjacent cells. The minor subcarriers have lower transmit power than the major subcarrier's and are used only by inner cell users. The ratio between minor and major subcarrier transmit powers is referred to as power ratio [15]. Simulation results in [14] showed that SFR achieves higher spectrum efficiency than FFR. However, the spectrum and power allocation for major and minor subcarriers in the SFR schemes are fixed. In [8] a hybrid frequency assignment for Femtocells in co-channel operation system has been proposed. Co-channel operation is only allowed in the edge zone, while Femtocells in the center zone use a dedicated frequency band which is not used by Macrocell users.

III. PROPOSED METHOD

3.1 System model:

A number of randomly distributed outdoor and indoor environments with macrocells, femtocells and the mobile stations are defined. A cell layout comprises of seven

A NOVEL APPROACH FOR FPGA CHIP IDENTIFICATION GENERATOR USING CONFIGURABLE RING OSCILLATORS

¹K.Venkateswarlu, ²S.Kirpalkour³, CH.Anil Kumar

^{1,2,3}Electronics and Communication Engineering, Mahaveer Institute of Science and Technology, Bandlaguda, Hyderabad, T.S

Abstract-Physically unclonable functions (PUF) are commonly used in applications such as hardware security and intellectual property protection. Various PUF implementation techniques have been proposed to translate chip-specific variations into a unique binary string. It is difficult to maintain repeatability of chip ID generation, especially over a wide range of operating conditions. To address this problem, we propose utilizing configurable ring oscillators and an orthogonal re-initialization scheme to improve repeatability. An implementation on a Xilinx Spartan-3e field-programmable gate array was tested on nine different chips. Experimental results show that the bit flip rate is reduced from 1.5% to approximately 0 at a fixed supply voltage and room temperature. Over a 20°C–80°C temperature range and 25% variation in supply voltage, the bit flip rate is reduced from 1.56% to 3.125×10^{-7} .

Keywords-Field-programmable gate array (FPGA), physically unclonable functions, ring oscillator.

I. Introduction

CHIP identification, in which unique binary strings are associated with integrated circuits of the same design, has a wide range of applications including digital intellectual property protection, integrated circuit counterfeit detection/prevention, and public-key cryptography. Field-programmable gate arrays

(FPGAs) are a mainstream hardware implementation platform, and need to be equipped with chip identification capabilities. Today's commercial FPGAs already contain such features.

For example, in Xilinx Virtex devices, a bitstream can be encrypted using a secret key. When the bitstream is downloaded, a hardware decryption core decrypts the bit stream. The bit stream only operates correctly if the device was programmed with the same key. This key is stored in RAM and it is not possible to read back the value [1]. Unfortunately, the chip identifier (ID) used for bitstream decoding is not available for other applications since this value cannot be read.

Xilinx also provides "Device DNA" in Spartan-3A series

FPGAs to protect designs from cloning, unauthorized overbuilding and reverse engineering. This feature is a unique factory set FPGA ID hardwired into the device which can be used to implement designs which only operate with a particular ID.

Instead of stored identification information, a physically unclonable function (PUF) utilizes physical variation to distinguish one chip from another. Using this concept, chip IDs can be obtained from mismatch in the delay, voltage or current values of an array of circuit structures of identical design. The random variation can be

extracted, averaged and thresholded to produce a binary output. This technique can be applied to any FPGA, in contrast to "Device DNA" which is only implemented on certain FPGAs.

Chip IDs generated in this way should be *unique* and *repeatable*. Uniqueness is required to avoid ID collisions between devices, while repeatability is necessary to ensure that a given device returns the same value every time. We use the term *unstable* to describe a chip ID with low repeatability. Ring oscillators (ROs) are often used to generate PUF IDs. One common method is to use a cell consisting of two or more ROs. Due to transistor delay variations, a random output for cell, can be obtained from the difference in period of ROs with the same layout but different spatial locations. A binary output can then assigned depending on the sign of . We show experimentally that is normally distributed with an expected value, of 0 [2]. When is large, this scheme consistently gives the same output. Unfortunately, when it is small, the repeatability is compromised, particularly in the presence of temperature and supply voltage fluctuation. By using configurable ring oscillators and a run-time re-initialization scheme, the near-threshold residue values are eliminated.

This results in a change in the distribution of s from normal to a desirable bimodal one. After thresholding, the resulting IDs have very good statistical properties over a wide range of temperature and voltage and therefore, the reliability of chip ID generation is significantly improved.

The contributions of this work are summarized as follows.

A cell which uses a number of ring oscillators with slightly different, configurable delay paths. They are arranged in a spatially overlapped fashion, saving

¹Corresponding Author

FPGA IMPLEMENTATION OF SUBSTITUTION-PERMUTATION NETWORK BASED BLOCK CIPHER

¹S. Soujanya, ²K. Archana, ³Syeda Musharraf Taheen

^{1,2,3}Department of Electronics and Communication Engineering, Mahaveer Institute of Science & Technology, Hyderabad.

Abstract- Network Security & Cryptography is a concept to protect network and data transmission over wireless network. Data Security is the main aspect of secure data transmission over unreliable network. The rapid development in information technology, the secure transmission of confidential data herewith gets a great deal of attention. The conventional methods of encryption can only maintain the data security. The unauthorized user could access the information for malicious purpose. Therefore, it is necessary to apply effective encryption/decryption methods to enhance data security. Sensitive information sent over an open network may be scrambled into a form that cannot be understood by a hacker or eavesdropper. This is done using a mathematical formula, known as an encryption algorithm, which transforms the bits of the message into an unintelligible form. The intended recipient has a decryption algorithm for extracting the original message. There are many examples of information on open networks, which need to be protected in this way, for instance, bank account details, credit card transactions, or confidential health records. This paper presents FPGA implementations of the Substitution-permutation based block cipher with improved security.

Keywords- Security, Cryptography, substitution method

I. Introduction

In cryptography, a block cipher is a deterministic algorithm operating on fixed-length groups of bits, called blocks, with an unvarying transformation that is specified by a symmetric key. Block ciphers are important elementary components in the design of many cryptographic protocols, and are widely used to implement encryption of bulk data. The modern design of block ciphers is based on the concept of an iterated product cipher. Product ciphers were suggested and analyzed by Claude Shannon in his seminal 1949 publication Communication Theory of Secrecy Systems as a means to effectively improve security by combining simple operations such as substitutions and permutations. Iterated product ciphers carry out encryption in multiple rounds, each which uses a different subkey derived from the original key. A widespread implementation of such ciphers is called a Feistel network, named after Horst Feistel, and notably implemented in the DES cipher. Many other realizations of block ciphers, such as the AES, are classified as substitution-permutation networks. In cryptography, an SP-network, or substitution-permutation network (SPN), is a series of linked mathematical operations used in block cipher algorithms such as AES (Rijndael), DES, Triple DES.

II. Existing Systems

Encryption algorithms can be divided into two different types: symmetric and asymmetric. Symmetric algorithms are those that use the same key for both encryption and decryption, and can be separated into block ciphers and

stream ciphers. In a stream cipher each plaintext digit is encrypted one at a time with the corresponding digit of the keystream, to give a digit of the cyphertext stream. Block ciphers operate on large blocks of digits with a fixed, unvarying transformation. Block ciphers are generally well suited to implementation in software. They have the advantage that if an error occurs in the ciphertext, it will only affect the block in which it is located. The most common block ciphers are AES, DES, BLOWFISH, TRIPLE DES and many others. Although the main objective of all these ciphers is to provide secure information, the way of approach is different. The proposed implementation of substitution-permutation based block cipher is developing new algorithm using the fundamental blocks of some block ciphers.

III. Existing Algorithms

A. Advanced Encryption Standard:

In a standard AES algorithm, there are four steps i.e. SubByte, ShiftRows, MixColumns and AddRoundKey in normal rounds for both the Cipher and its Inverse.

(a) SubBytes - The bytes substitution transformation is a non-linear substitution of bytes that operates independently on each byte of the state using a substitution table (Sbox). This S-box is also invertible.

¹Corresponding Author

K. Archana
PRINCIPAL
MAHAVEER
INSTITUTE OF SCIENCE & TECHNOLOGY
Bandlaguda, Hyd-500 005.

MODELLING OF EFFICIENT INTERLEAVING IN A MIMO-OFDM COMMUNICATION SYSTEM

¹H.Anita, ²Priyanka, ³G. Jahnvi,

^{1,2,3}Department of Electronics and Communication Engineering, Mahaveer Institute of Science & Technology, Hyderabad

Abstract-This work is based a memory-efficient and faster interleaver implementation technique for MIMO-OFDM communication systems on FPGA. The IEEE 802.16 standard is used as a reference for simulation, implementation, and analysis. This is the method for interleaver design on FPGA and its memory utilization. This paper work concentrate on efficient interleaver design for IEEE802.16 system implemented on FPGA. The work focuses on the interleaver design. Our goal is to achieve minimum memory usage, faster interleaving, and increased speed of the overall system.

Keywords: MIMO-OFDM, IEEE802.16, FEC, Interleaving.

I. Introduction

The IEEE 802.15 defines the standard for broad band wireless access covering the physical layer and medium access specifications for wireless metropolitan area networks (WMAN). The IEEE 802.16 Air Interface Standard is a technology that is playing a key role in fixed broad band wireless MAN. The forward error correction(FEC) mechanism in the standard plays a very important role in its performance. A number of techniques are being used to achieve highly effective error-control coding such as Turbo codes and concatenated codes. However, interleaving also plays a major role in the FEC mechanism. The aim of interleaving is to reorder the incoming data and make the adjacent bits non-adjacent by a factor, to cope with the burst errors occurring during the transmission of data over the channel. Memory utilization and frequent memory accesses time area crucial part of Interleaver design, targeting less memory utilization and reduced memory access inorder to reduce the power dissipation of the overall system. This paper is organized as follows. Section II presents an overview of proposed system. Section III presents the design of the whole MIMO-OFDM transmitter and puts an emphasis on a innovative design of encoder and puncturing. Section IV discuss the simulation results and analysis of coding and puncturing techniques. Section V concludes the paper.

II. System Description

Block Diagram

The basic OFDM communication system physical layer is shown in Figure 2. The forward error correction (FEC) blocks include convolutional encoding, puncturing, and interleaving. A modification of the system described in Figure 1 is to use two separate data streams to enhance the data rate and possibly increase the number of antennas by using spatial as well as transmit diversity. However, In this analysis, only spatial diversity is used by having two

parallel data streams that make up a 2x2 MIMO-OFDM communication system.

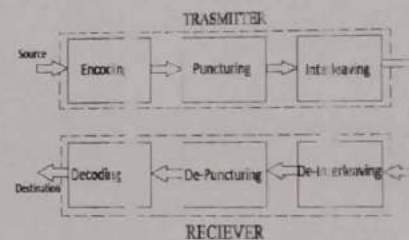


Figure 1: OFDM System

Convolutional Encoding

In telecommunication a convolution code is a type of error-correcting code in which each m -bit information symbol (each m -bit string) to be encoded is transformed into an n -bit symbol where m/n is the code rate ($n \geq m$). The transformation is a function of the last k information symbols, where k is the constraint length of the code.

Convolutional codes are used extensively in numerous applications inorder to achieve reliable data transfer, including digital video, radio, mobile communication, and satellite communication. These codes are often implemented in concatenation with a hard-decision code, particularly Reed Solomon. Prior to turbo codes, such constructions were the most efficient, coming closest to the Shannon limit. To convolutionally encode data, start with k memory registers, each holding an input bit. Unless otherwise specified, all memory registers start with a value of 0. The encoder has n modulo-2 adders (a modulo 2 adder can be implemented with a single Boolean XOR gate, where the logic is: $0+0=0$, $0+1=1$, $1+0=1$, $1+1=0$) and n generator polynomials—one for each adder (see Figure below). An input bit m_i is fed into the left most

¹Corresponding Author

HIGH PERFORMANCE ADVANCED SIGNED MULTIPLIER FOR DSP APPLICATIONS

¹N.Sharath Babu, ²V.Himaja, ³B.Srinu

¹Department of Electronics and Communication Engineering, Anurag Group of institutions, Venkatapur, Ghatkesar, Hyderabad,T.S

^{2,3} Department of Electronics and Communication Engineering, Mahaveer Institute of Science and Technology, Bandlaguda, Hyderabad,T S

Abstract- The speed of a multiplier is of utmost importance to any Digital Signal Processor (DSPs) performance. Along with the speed its precision also plays a major role. Although Floating point multipliers provide required precision they tend to consume more silicon area and are relatively slower compared to fixed point (Q-format) multipliers. In this paper we propose a method for fast fixed point signed multiplication based on Urdhava Tiryagbhyam method of Vedic mathematics. The coding is done for 16 bit (Q15) and 32 bit (Q31) fractional fixed point multiplications using Verilog and synthesized using Xilinx ISE version 12.2. Further the speed comparison of this multiplier with normal booth multiplier and Xilinx LogiCore parallel multiplier Intellectual Property (IP) is presented. The results clearly indicate that Urdhava Tiryagbhyam can have a great impact on improving the speed of Digital Signal Processors.

Keywords- Q-Notation; Vedic Multiplier Mathematics; Fractional fixed point

I Introduction

Vedic Mathematics hails from the ancient Indian scriptures called "Vedas" or the source of knowledge. This system of computation covers all forms of mathematics, be it geometry, trigonometry or algebra. The striking feature of Vedic Mathematics is the coherence in its algorithms which are designed the way our mind naturally works. This makes it the easiest and fastest way to perform any mathematical calculation mentally. Vedic Mathematics is believed to be created around 1500 BC and was rediscovered between 1911 to 1918 by Sri Bharti Krishna Tirthaji (1884-1960) who was a Sanskrit scholar, mathematician and a philosopher [1]. He organized and classified the whole of Vedic Mathematics into 16 formulae or also called as *sutras*. These formulae form the backbone of Vedic mathematics. Great amount of research has been done all these years to implement algorithms of Vedic mathematics on digital processors. It has been observed that due to coherence and symmetry in these algorithms it can have a regular silicon layout and consume less area [2,3] along with lower power consumption.

Normally signal processing algorithms are developed using high level languages like C or Matlab using floating point number representations. The algorithm to architecture mapping using floating point number representation consumes more hardware which tends to be expensive. Fixed point number representation is a good option to implement at silicon level. Hence our focus in this work is to develop optimized hardware modules for multiplication operation which is one of the most frequently used operation in signal processing applications like Fourier transforms, FIR and IIR filters, image

processing systems, seismic signal processing, optical signal processing etc. Any attempt to come out with an optimized architecture for this basic block is advantageous during the product development stages.

Considering fixed point representation, 16 bit Q15 format and 32 bit Q31 format provide required precision for most of the digital signal processing applications and it is best suited for implementation on processors. The advantage it provides over floating point multipliers is in the fact that Qformat fraction multiplications can be carried out using integer multipliers which are faster and consume less die area. DSP Processors like TMS320 series from Texas Instruments work on 16 bit Q15 format. In this paper we propose the implementation of fixed point Q-format [6] high speed multiplier using Urdhava Tiryagbhyam method of Vedic mathematics. Further we have also implemented multipliers using normal booth algorithm [8] and Xilinx parallel multiplier Intellectual Property and presented a comparative study on maximum frequency or speed of these multipliers.

The paper is organized into VI sections. Section II explains fixed point or Q-format representation of a number; III spreads light over Urdhava Tiryagbhyam method of Vedic mathematics; IV explains the architecture of proposed Qformat Urdhava multipliers; V presents the results and comparison and lastly VI provides conclusion of the work.

II Fixed Point Arithmetic

An N-bit fixed point number [6] can be interpreted as either an integer or a fractional number. Integer fixed point is difficult to use in processors due to possible overflow. For e.g. In a 16-bit processor for signed integers the dynamic range is from -2^{15} to $2^{15}-1$ i.e. 32768 to 32767. If

¹Corresponding Author

Mutual Coupling Reduction of a MIMO Antenna using Meta-Materials

Prof. Premsai Regalla

Assistant Professor

Department of Electronics & Communication Engineering
Holy Mary Institutes of Technology & Science, Hyderabad,
India

Prof. B. Karunaiah

Associate Professor

Department of Electronics & Communication Engineering
Holy Mary Institutes of Technology & Science, Hyderabad,
India

Abstract

2-D Meta material structure (2DMMS) is proposed to reduce mutual coupling of a two-element micro strip patch antenna. Structure consists of an upper T-shaped patch and two lower U-shaped patches connected with two shorted pins. The proposed 2-D Meta material has a negative permeability at 2.35-2.45 GHz band, which covers the operation band of the patch antenna array with an edge-to-edge array-element distance of $0.13\lambda_0$. Meta material is placed on substrate between two antenna elements, which has a 0.1mm vertical distance to the patch antennas. The results show that about more than 18 dB mutual coupling reduction is achieved by using the 2 DMMS without affecting the operating bandwidth and radiation characteristics. Thus, the proposed MIMO antenna with 2-D Meta material achieves an isolation improvement of 20dB in comparison of the simulated MIMO antenna without the proposed Meta material structure.

Keywords: Meta Material Structure, Mutual Coupling Reduction Technique, Microstrip Patch Antenna

I. INTRODUCTION

Now a day's technology depends on small, fast and more reliable devices. One of the main goals in communication technologies is to make their systems as small as possible as long as their size with-out effecting the performance. This means employing more antennas and placing close to each other. Multiple input-Multiple output (MIMO) is an efficient technique for improving the reliability and the channel capacity in the next generation of wireless communication systems. When the space for antennas is limited, it forces strong mutual coupling between each antenna element decreases the channel capacity and radiated power. Moreover, smaller and higher data transmission devices are needed to install a MIMO antenna in a limited space. As a result, the distance between the antenna elements are becoming narrower, which will not only result in a strong mutual coupling between the array elements but also increase the spatial correlation. Additionally, the mutual coupling between antenna elements is an urgent problem, because the inter coupling will affect wireless system performance, antenna efficiency, as well as amplitude and phase errors. Patches are used as the Radiating elements of MIMO antenna. In the antennas era there are many methods which are studied to remove/reduce mutual coupling between radiating/patch elements. Several decoupling techniques between radiating elements in artificial structures which are Meta-material (MM) structures, Asymmetrical coplanar-strip (ACPs) wall and micro-strip stubs. Electromagnetic band gap (EBG), split ring resonator and trending SRR occupying less space. These are the types of MMs which act as wavelength resonators to suppress Electro-Magnetic wave propagation. The EBG (Electro-magnetic band gap) based mutual coupling reduction technique is not worth-full if the edge separation is less ($<0.5\lambda_0$) why because EBG structures are not small. For

Decoupling we can place an asymmetrical coplanar strip wall (ACPS) vertically between two patch elements, but it is not applicable when we aim for low-profile antenna. By etching the vertical ACPS wall into the ground and radiating elements is a complicated process. Micro-strip stubs acts as resonators for mutual coupling suppression. We can achieve by inserting inter-digital lines between two patches with small edge separation, but polarization purity will be degraded so it is not applicable for some cases. There are many artificial structures for improving isolations also suffer from either complicated fabrication process or large antenna edge separation. By placing Array-antenna decoupling surface (ADS) above the ground plane, it creates partial reflective electromagnetic (EM) waves to cancel the coupled waves from the adjacent radiating elements.it leads to high port isolation so ADS based decoupling techniques are not applicable for very closely spaced antennas because coupled reflective EM waves are out of control. Finally we can say ADS is suitable for high-profile.

A periodic material that derives its properties from its structure rather than its components is called Meta materials. Meta materials are combination of multiple individual elements fashioned from conventional microscopic materials such as metals, plastic which are arranged in periodic pattern. Meta materials shape, size, geometry and orientation effects the waves of light or sound in an unconventional manner. Creating material properties which are unachievable with conventional materials. Negative refractive index is the focused object in Meta materials. Materials, which exhibited reversed physical characteristics were first described theoretically by victor in 1967. From the past few generations we can see experimental demonstrations of functioning electro-magnetic Meta materials by horizontally stacking, periodically, split ring resonators and thin wire structures. Negative

Clap Switch Controller by using IC555 Timer

M. Sai Kumar, Student of ECE, Holy Mary Institute of Science & Technology, Hyderabad.

Asoc. Prof B Karunaiah, Dept of ECE, Holy Mary Institute of Science & Technology.

P.Akhil, Student of ECE, Holy Mary Institute of Science & Technology, Hyderabad

Abstract

A "Clap On Clap Off" switch is an interesting concept that could be used in home automation. It works as a switch which makes devices ON and OFF by making a clap sound. Although its name is "Clap switch", but it can be turned ON by any sound of about same pitch of Clap sound. The main component of the circuit is the Electric Condenser Mic, which has been used as a sound sensor. Condenser Mic basically converts sound energy into electrical energy, that in turns used to trigger 555 timer IC, through a Transistor. And triggering of IC 555 TIMER works as a Clock pulse for D-type flip-flop and would turn ON the LED, which will remain ON until the next clock pulse means until the next Clap/sound. So this is the Clap Switch which will turn ON with first Clap and turn OFF with the second Clap. If we remove the D-type Flip flop from the circuit, the LED will be turned OFF automatically after some time and this time will be $1.1 \times R1 \times C1$ seconds, which I have explained in my previous circuit of clap switch. For better understanding, I recommend to study the previous circuit before study this one.

Index Terms - Flip Flop Circuit, Audio Amplifier, Circuit Amplifier, Bc547 Transistor, Ic555 Timer, Led.

I. INTRODUCTION

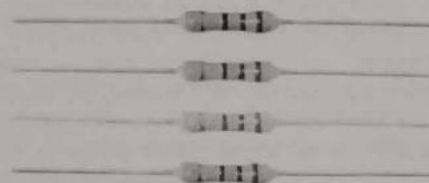
This is a project on CLAP SWITCH which can switch on/off any electrical circuit by the sound of a clap. The operation of the circuit is simple. If we clap the lamp turns on and to switch it off clap again. The condenser microphone picks up the sound of your claps, coughs, and the sound of that book knocked off the table. It produces a small electrical signal which is amplified by the succeeding transistor stage. Two transistors cross connected as a bi-stable multi vibrator change state at each signal. One of these transistors drives a heavier transistor which controls a lamp. This circuit can switch on and off a light, a fan or a radio etc by the sound of a clap. This circuit is constructed using basic electronic components like resistors, transistors, relay, transformer, capacitors. This circuit turns 'ON' light for the first clap. The light turns ON till the next clap. For the next clap the light turns OFF. This circuit works with 12V voltage. Therefore a step-down transformer 12V/300mA is employed. This working of this circuit is based on amplifying nature of the transistor, switching

nature of transistor, relay as an electronic switch. Basically, this is a Sound operated switch.

The basic principle of this clap switch circuit is that it converts sound signal into electrical energy. The input component is a transducer that receives clap sound as input and converts it to electrical pulse. The basic idea of clap switch is that the electric microphone picks up the sound of your claps, coughs, and the sound of that book knocked off the table. It produces a small electrical signal which is amplified by the succeeding transistor stage. Two transistors cross connected as a bi-stable multi vibrator change state at each signal. One of these transistors drives a heavier transistor which controls a lamp.

II. CIRCUIT COMPONENTS

Resistors: Resistors are the most common passive electronic component (one that does not require power to operate). They are used to control voltages and currents. While a resistor is a very basic component, there are many ways to manufacture them. Each style has its own characteristics that make it desirable in certain types of applications. Choosing the right type of resistor is important to making high-performance or precision circuits work well. This bonus chapter covers the resistor types and helps with picking the right one for your project.



resistor

All resistors are basically just a piece of conducting material with a specific value of resistance. For that piece of conducting material to be made into a practical resistor, a pair of electrodes and leads are attached so current can flow. The resistor is then coated with an insulating material to protect the conducting material from the surrounding environment and vice versa. There are several different resistor construction methods and body styles (or

Design and Implementation of Ultra Sonic Range and Object Detection

K.KanthiKumar, B.Karunaiah, J.Pushpa Rani
Department of ECE
Holy Mary Institute of Technology & Science

Abstract

Ultrasonic sensor HC-SR04 is used here to measure distance in range of 2cm-400cm with accuracy of 3mm. The sensor module consists of ultrasonic transmitter, receiver and the control circuit. The working principle of ultrasonic sensor is as follows: High level signal is sent for 10us using Trigger. The module sends eight 40 KHz signals automatically, and then detects whether pulse is received or not. If the signal is received, then it is through high level. The time of high duration is the time gap between sending and receiving the signal. $Distance = (Time \times Speed \text{ of Sound in Air } (340 \text{ m/s}))/2$.

Keywords - Ultra Sonic, Radar, Servomotor

I. INTRODUCTION

RADAR is an object detection system which uses radio waves to determine the range, altitude, direction, or speed of objects. Radar systems come in a variety of sizes and have different performance specifications. Some radar systems are used for air-traffic control at airports and others are used for long range surveillance and early-warning systems. A radar system is the heart of a missile guidance system. Small portable radar systems that can be maintained and operated by one person are available as well as systems that occupy several large rooms.

The modern uses of radar are highly diverse, including air traffic control, radar astronomy, air-defense systems, antimissile systems; marine radars to locate landmarks and other ships; aircraft anti-collision systems; ocean surveillance systems, outer space surveillance and rendezvous systems; meteorological precipitation monitoring; altimetry and flight control systems; guided missile target locating systems; and ground-penetrating radar for geological observations. High tech radar systems are associated with digital signal processing and are capable of extracting useful information from very high noise levels.

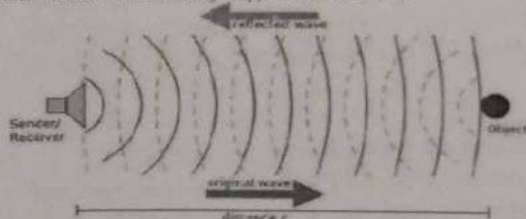


Fig:-radar signal range

II. COMPONENTS

A. Introduction to Arduino Uno

The Arduino Uno is a microcontroller board based on the ATmega328. It has 14 digital Input /Output pins (of which 6 can be used as PWM outputs), 6 analog inputs, a 16MHz ceramic resonator, USB connection, a power jack, an ICSP header and a reset button. It contains everything needed to support the microcontroller; simply connect it to computer with a USB cable or power it with a AC-to-DC adapter or battery to get started. The Uno differs from all preceding boards in that it does not use the FTDI USB-to-serial driver chip. Instead, it features the Atmega16U2 programmed as a USB-to-serial converter. Changes in Uno R3.

B. AVR ATmega328

The ATmega328 is a single chip microcontroller created by Atmel and belongs to the mega AVR series. The high-performance Atmel 8-bit AVR RISC-based microcontroller combines 32 KB ISP flash memory with read-while-write capabilities, 1 KB EEPROM, 2 KB SRAM, 23 general purpose I/O lines, 32 general purpose working registers, three flexible timer/counters with compare modes, internal and external interrupts, serial programmable us art, a byte-oriented 2-wire serial interface, spi serial-port, a 6-channel 10 bit Analog to Digital converter (8-channels) in TqFp and qfn/mlf packages), programmable watchdog timer with internal oscillator and five software selectable power saving modes. The device operates between 1.8-5.5 volts.

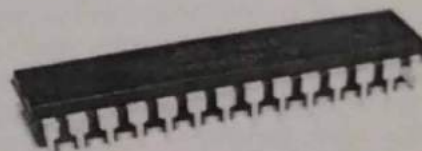


Figure 3.2 ATmega328

C. Crystal Oscillator

A crystal oscillator is an electronic oscillator circuit that uses the mechanical resonance of a vibrating crystal of piezoelectric material to create an electrical signal with a very precise frequency. This frequency is commonly used to keep track of time, as

Content Addressable Memory for Multi Page Memory Interface

K.Suresh Kumar¹, Y.Rajasree Rao², K.Manjunathachari³

¹Electronics & Communication Engineering Department, SSJ Engineering College, Affiliated to JNTUH
Hyderabad, Telangana-500075, India

²Professor & Dean, Electronics & Communication Engineering Department, St.Peter's Engineering College,
Hyderabad, Telangana, India

³Professor.&HOD, Electronics & Communication Engineering Department GITAM University, Hyderabad,
Telangana, India

Corresponding Author: K.Suresh Kumar¹

Abstract: content addressable memory (CAM) interface plays a major role in current applications, where the stored data are coded or processed for interfacing, reading and processing of stored data. In the process of memory interface, as the volume of data is increasing, the conventional single page memory interface are not suitable. Hence, to process over a large volume of data multi page memories are developed. Where, multi page memories are suitable for large volume storage, accessing of such memory is a complex task. In this paper, a new interface design to data interfacing on such memory unit is proposed. The design approach, gives a simpler modeling of data interfacing in content based addressable memory interfacing applications.

Key words: Content Addressable Memory, multi page memory interface, system design.

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I. Introduction

Content addressable memory interface has gained its usage from long time. Such application, data are stored on to a memory location, and read from the addressed location on requirement. Such memory interface has the advantage of storage and accessing on a direct addressing mode. From the initiation of such memory interface design, efforts are been made to perform a simpler accessing and faster processing of data accessing. In various past developments, it is observed that the memory interfacing is been improved via matching logic or addressing register utilization. CAM hardware has been available for decades and many research are addressed to development of high capacity and effective CAM designs at circuit, architectural and application level. A lot of projects are leaning towards "real live" application for effective algorithms for package forwarding based on CAMs and its extended version Ternary CAM (TCAM) [1]. At lower level designs many papers introduce methodologies and optimization to speed, power and physical circuit resources. Authors of [2] in detail describe the principle of CAM functions at transistors and circuits level including core cells, match line and search line structures and power consumption formulation. Also power and area reducing techniques are presented on the circuit level. Practical design on architecture level is presented by [4]. The proposed CAM chip design is based on modification to the RAM chip circuit explained in [5]. CAM memories enhanced with "don't care" states are used for more complex project like hardware based Network Intrusion Detection and Prevention Systems (NIDPS) [9]. CAMs have a single clock cycle throughput making them faster than other hardware- and software-based search systems. CAMs can be used in a wide variety of applications requiring high search speeds. These applications include parametric curve extraction, Hough transformation, Huffman coding/decoding, Lempel-Ziv compression [10]-[13], and image coding applications [14]. However, the conventional single page memory interfaces are not suitable for large volume data interfacing. Hence, multi page memories are developed. In this paper, we present a new approach to multi page memory design interface for large volume interfacing. To present the state approach, this paper is presented in 5 sections, where section 2 outline the approach of data handling and its issues in large data accessing. The proposed design approach of multi page memory interface is outlined in section 3. Section 4 outlines the obtained experimental result for the developed system. The conclusion for the developed work is outlined in section 5.

II. Cam Data Handling

The technology underlying the practical use of CAM hardware, software, and design techniques are fast changing and complex. Designers contemplating the development of products using CAM technology are confused to choose with a vast array of tools, technologies, and methodologies. In this all technologies and methodologies, the issue of data management varies as the application changes. Some of the design challenges

An Extended Kalman Filter for Low-Cost Positioning System in Agricultural Vehicles

Nenavath Ravi Kumar

Dept. of Electronics and Communication Engineering
Anurag Engineering College
Telangana, India
n.janakiravi@gmail.com

E. Nagabhooshanam

Dept. of Electronics and Communication Engineering
Sri Devi Woman's Engineering College
Telangana, India
enb1234@rediffmail.com

Abstract— Accurate positioning is needed for agricultural vehicles now and in the future. Position is currently needed for mapping, precision farming, auto steering vehicles and for agro robotic solutions. Thus two kinds of errors is defined for GPS receivers such as relative accuracy and the absolute accuracy, which is measured positions to their real position. In this paper to overcome the above said problems such as errors we have proposed Extended Kalman filter by adopting artificial bee colony (ABC) algorithm for dynamic tuning. Hence consider a kinematic tractor model where the system inputs are vehicle speed, front wheel steering angle and the midpoint of the rear wheel axle. Thus Extended Kalman filter an efficient and mathematical algorithm that processes imprecise observation of input data and creates an optimal estimate by providing a prediction model and an observation model is proposed. The first phase is prediction stage and the second phase is the update stage in the system to produce an a posteriori state estimate, by adjusting the previous a priori estimate. Moreover ABC optimization algorithm is used to generate an optimal precise output. Hence the developed model is implemented in the working platform of MATLAB and output is compared with the existing technique to evaluate the performance.

Index Terms— Extended Kalman Filter, Artificial bee colony, Positioning, Tractor, Optimization, Fitness function, RMSE.

I. INTRODUCTION

The GPS (Global Positioning System) [1] has become the major outdoor positioning system. Since the applications of GPS has become more and more popular nowadays in many aspects, such as rescue response mobile gaming [4], medical applications etc. Global Positioning System (GPS) [13] is based on the computation of range from the receiver to multiple satellites by multiplying the time delay that a GPS signal needs to travel from the satellites to the receiver by velocity of light [1]. At present there are 32 GPS satellites revolving around the globe [12] Out of 32 satellites 24 are for working and the rest eight are kept spare to replace any of these 24 satellites in case of malfunction or damage to them. These 24 satellites revolve around the earth surface in six predetermined orbits each orbit having four satellites [14]. Each of these orbits makes an inclination angle of 55° with earth's equator [3]. Each satellite rotates around the earth two times in a sidereal day in their respective orbit having a radius of approximately 26550km [2]. It is a satellite based system, which is used to find the position of an object across the earth by giving its coordinates [8]. GPS use satellite data to

calculate an accurate position on the earth. These calculations can relate the user's position to almost any map projection within milli-seconds. The most significant difference between GPS receivers is the number of satellites they can simultaneously communicate with the number, position and strength of signal from the satellites allows the GPS to calculate a rough estimate of the error in its reported position.

It was first designed and operated by the U.S. Department of Defense. Twenty nine satellites revolve around the earth every 12 hours at 12 miles away from the earth, thus covering the greater area of earth. To evaluate the user's position by using the distance, receiver needed at least four satellites. Each satellite revolves around earth by one time in 12 hours. The GPS system accurately measures the unknown location of a user on earth using the fundamental principle of trilateration [10]. The GPS satellites are positioned in such a way that at least five to eight satellites are accessible at any point on earth at any time. Basically GPS works in three segments- space segment, control segment and user segment. Space segment consists of satellites which broadcast signals, user segment include different GPS receivers and control segments consists of master control station, base control station and ground antennas. While five base station in control segment sends information to the master control station, where master control station corrects the information and send it back to satellites through ground antennas [9].

GPS provides the location and time information at any point at anytime, anywhere on earth in the form of longitude, latitude and altitude. It is not only offering directions and location details but also navigation tools to move between locations. The reason why the actual locational position is significantly less accurate than the data transmitted by the satellite is due to various influences on the signal. These can be collectively termed local and atmospheric effects. Local effects are detrimental conditions on the ground near the receiver or in the receiver's software while atmospheric effects are problems with the medium through which the signal passes. The drawback it has was it requires very clear environment for good accuracy. It is available where there is a clear line of sight to four or more GPS satellites [11]. GPS applications include surveying, space navigation, automatic vehicle monitoring, emergency services dispatching, and mapping and geographic information system geo referencing [1] civilian and military community for positioning, timing,

Relationship among monthly averaged Pressure, Temperature and Relative Humidity and their Effect on Tropospheric Scintillations in Indian climate

R.Prabhakar¹, Dr.T.Venkata Ramana²

Research Scholar, Assoc..Professor,
GITAM University, Visakhapatnam,
A.P, India

Dept of ECE, GITAM University,
Visakhapatnam, AP, India

prabhakar422@gmail.com,
teppala@gmail.com

April 30, 2018

Abstract

To estimate and compare the characteristics of Tropospheric atmospheric Pressure, Temperature and Relative Humidity in south India Region. And observe the effect of these parameters on Tropospheric Scintillations and to be compare with the theoretical background and meteorological parameters. New prediction model for the scintillation effect could be develop and need to specify the improvements to existing models.

Key Words: Monthly averaged pressure, Temperature, Relative Humidity and Height, Ka band, Tropospheric scintillations

Design Validation of Inter-IC (I²C) Bus and Implementation in Real-Time PCI Application

*M. Srinu, B.Krishna

Asst. Professor, Department of ECE, Mahaveer Institute of Science & Technology-Hyd,
Assistant Professor, Department of ECE, AAR Mahaveer Engineering College-Hyd,
Corresponding Author: M. Srinu

Abstract: Validation is the activity that determines the correctness of the design that is being created. It ensures that the design does meet the specifications required and operates properly. This paper will focus on developing an exhaustive, reusable and configurable environment to validate the Inter-IC (I²C) interface on one of Intel's silicon products. Inter-IC (I²C) provides a way of serial communication between CPU and low speed peripherals with in short range. In this paper used a specimen based validation environment for validation of Inter-IC (I²C) protocol. Specimen provides inbuilt constraint solver, which allows fast and easy test generation. This paper will also focus on developing the validation environment to validate the System Management Bus (SMBus) and PCA9555 IO expander, which are usage models of Inter-IC (I²C) bus. System Management Bus (SMBus) provides a control bus for system. PCA9555 IO expander provides 16 bits of General Purpose parallel Input/output (GPIO) expansion for Inter-IC (I²C) bus applications. Hot plug operation allows addition or removal of components that would expand or shrink the system without significant interruption to the operation of the system. Implementing Peripheral Component Interconnect (PCI) Hot plug functionality with System Management Bus (SMBus) and PCA9555 IO expander reduces the required number of IO pins. Such Peripheral Component Interconnect (PCI) Hotplug validation environment can be developed by re-using System Management Bus (SMBus) and PCA9555 validation environments to validate Peripheral Component Interconnect (PCI) Hotplug operation on Intel Peripheral Component Interconnect (PCI) Express Controller.

Keywords: I²c, SMBus, GPIO, PCI, SPI, ISA, VESA, AGP, IPMI, NXP, API, BFM.

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I. INTRODUCTION

Validation is the activity of the correctness of the design is created. It ensures that the design does meet the specifications required and operates properly. In the IC design process is mapped into its implementation correctly in terms of Validation. The number of gates increases in modern integrated circuits coupled with the use of Intellectual Property (IP) cores and advances in design re-use methodologies are contributing to larger, more complex and highly integrated designs. These increased complexity results of designs take more effort and time to verify. Validation tasks commonly accounts for 50% to 80% of the chip's development schedule. So, validation is the bottleneck in delivering today's highly integrated electronic systems and chips.

A bus is a set of physical connections which can be shared by multiple hardware components in order to communicate with one another. The purpose of buses is to reduce the number of "pathways" required for communication between the components, by carrying out all communications over a single data channel. If only two hardware components communicate over the line is called a hardware port. Hardware components may include the CPU, main memory, and I/O devices. The four components are connected with ports is shown in fig.1.1 and components are connected with bus is shown in fig.1.2. It is observed that number of pathways needed for communication is less when components are connected with bus.

Different types of buses are common in practice are SPI (Serial Peripheral Interface) , FC(Inter Integrated Circuit), ISA (Industry Standard Architecture), VESA (Video Electronics Standards Association), PCI (Peripheral Component Interconnect), USB (Universal Serial Bus), AGP (Advanced Graphics Port), PCI Express.

A. I²C BUS

I²C Bus was developed by NXP Semiconductors. It is a simple bidirectional two wire bus for efficient inter-IC control. This bus is called the Inter-IC or I²C-bus.

High Performance FPGA Based Optimization Techniques for DSP Blocks

B.Krishna¹, M.Srinu²

¹Assistant Professor ECE AAR Mahaveer Engineering College

²Assistant Professor ECE AAR Mahaveer Institute of Science and Tecnology

ABSTRACT

A digital circuit Optimization is needed to attain higher performance include terms like minimizing the area occupancy and increasing the speed of operation. In any digital circuit the critical path (longest path delay) decides the operating frequency of the system. The operating frequency of digital circuits can be increased by several techniques such as pipelining and wave-pipelining. The proposed technique is evaluated by implementing 4x4 array multiplier, 4-tap FIR filter using array multiplier and 4-tap DA based FIR filter by using three different schemes: non-pipelining, pipelining and wave-pipelining on Spartan 3E FPGA. The WP array multiplier and FIR filters are operating at higher frequency than by using conventional pipelining and non-pipelining techniques.

Keywords: Clock skew, DA, MAC, WP, OSPAM, NRE.

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Date of acceptance: 22-11-2017

I. INTRODUCTION

Wave pipelining is high performance circuit designs which an implements pipelining in logic without the use of intermediate registers has the ability to improve speed, efficiency, economy in every aspects. The operating speed of the wave-pipelined (WP) circuit can be increased by the following three tasks: adjustment of the clock period, clock skew and equalization of path delays. The path-delay equalization task can be done theoretically but the real challenge is to accomplish in the presence of various different delays. So to solve the path delay equalization problem insert the control circuit in WP based circuit which will act as critical path for the data moves from input to output.

The conventional Finite Impulse Response (FIR) filters use multipliers, adders and delay elements to produce the required output. The multipliers which multiply the input with the fixed content significantly occupy more area to store their temporary values and also increase the power consumption. The multipliers in FIR filter are replaced with multiplier less Distributed Arithmetic (DA) based technique.

Most of the Digital Signal Processing (DSP) algorithms require multiplication and addition in real time the unit carrying out this function is called Multiply Accumulate (MAC). The three types of technology exist for the implementation of DSP algorithms are: Programmable DSP (PDSP) chips, Application-Specific Integrated Circuits (ASICs), Field-Programmable Gate-Arrays (FPGAs).

Typically PDSP chips have only one MAC unit that can perform one MAC is less than a clock cycle. DSP processors or PDSP chips are flexible but they might not be fast enough. The reason is that the DSP processor is general purpose and that architecture requires constant instructions to be fetched, decoded and executed.

ASICs have multiple dedicated MACs that perform DSP functions in parallel but they have high cost, low volume production and the inability to make design modifications after production makes them less attractive. FPGAs offer amazing capabilities for many embedded systems from network infrastructure to military and medical. Many front-end DSP algorithms are Fast Fourier Transforms (FFTs), Finite Impulse Response (FIR) or Infinite Impulse Response (IIR) filters built with ASICs or PDSPs are now replaced by FPGAs. FPGAs have advantages over ASICs such as rapid prototyping, circuit programmability, lower Non-Recurring Engineering (NRE) costs and more economical designs.

II. MOTIVATION

Multipliers are extensively used in common engineering tasks are correlations, convolutions, filtering and frequency analysis. The multiplication specifically in case of higher data path is an expensive, slow process and forms the lowest denominator for the performance of any design with the trend in modern digital systems increasingly focused on design solutions are high reliability and low cost along with power restrictions, design

VERIFICATION OF RISC-V PROCESSOR USING UVM TESTBENCH

Chevella Anilkumar¹, K Venkateswarlu²

^{1,2} ECE Department, JNTU HYDERABAD(INDIA)

ABSTRACT

RISC-V (pronounced "risk-five") is a new, open, and completely free general-purpose instruction set architecture (ISA) developed at UC Berkeley. It is designed to be useful in modern computerized devices such as warehouse-scale cloud computers, high-end mobile phones and the smallest systems. The RISC-V instruction set is for practical computers. It has features to increase a computer's speed yet reduce its cost and power use. These include a load-store design, bit patterns to simplify the multiplexers in a CPU. The instruction set is designed for a wide range of uses. The instruction set is variable-width and extensible, so that more encoding bits can always be added.

The test bench is implemented using System Verilog, the Universal Verification Methodology and C++. System Verilog is Verilog with extensions to support object-oriented programming, improved synchronization and functional coverage. UVM is a joint effort between Mentor and Cadence to develop an SV library of common blocks and features to expedite the creation of SV test benches. UVM also defines a standard implementation methodology to follow.

The test bench determines generation of the stimulus, applies it to the DUT and Reference Model, collects it and scores it to determine the functional coverage. The test bench makes extensive use of the predefined classes in UVM. The Reference Model runs with the RS64 RTL to provide on-the-fly checking during simulation. The random constraint solver is used with sequences to create complex test scenarios controlling multiple interfaces.

Keyword : C++DUT,ISA,RISC,RS64 RTL,UVM,VERILOG

I. INTRODUCTION

Today's devices are highly integrated, enabling a single chip to perform many functions such as networking, wireless etc. Each function is done by an Intellectual Property (IP). Grouping all the IPs and allowing them to communicate on one chip is called System on Chip (SoC).

The increasing demand for high-performance portable SoC's in communication and computing has added the power consumption to the traditional constraints, such as area, performance, cost, and reliability digital designs.

The main agenda of this project is to verify the RISC-V processor.

The VLSI design cycle starts with a formal specification of a VLSI chip, follows a series of steps, and eventually produces a packaged chip. VLSI design Flow is generally divided into two phases – Front End and Back end

Computer-Aided Diagnosis of Mammographic Masses using Scalable Image Retrieval

SYEDA MERAJ FATIMA¹, AFREEN LAYEEQUA², SYEDA MUSHARRAF TASKEEN³

Abstract: Mammogram analysis is known to provide early-stage diagnosis of breast cancer in reducing its morbidity and mortality. In this paper, we propose a scalable content-based image retrieval (CBIR) framework for digital mammograms. CBIR is of great significance for breast cancer diagnosis as it can provide doctors image-guided avenues to access relevant cases. Clinical decisions based on such cases offer a reliable and consistent supplement for doctors. In our framework, we employ an unsupervised algorithm, Anchor Graph Hashing (AGH), to compress the mammogram features into compact binary codes, and then perform searching in the Hamming space. In addition, we also propose to fuse different features in AGH to improve its search accuracy. Experiments on the Digital Database for Screening Mammography (DDSM) demonstrate that our system is capable of providing content-based accesses to proven diagnosis, and aiding doctors to make reliable clinical decisions. What's more, our system is applicable to large-scale mammogram database, such that high number analogical cases would be retrieved as clinical references.

Keywords: Breast Masses, Computer-Aided Diagnosis (CAD), Mammography, Content-Based Image Retrieval (CBIR).

I. INTRODUCTION

Breast cancer is the second-most common and deadly cancer among women. Since the cause of breast cancer is undiscovered, for the time being, there are no effective ways to prevent it. Fortunately, due to the adoption of mammography screening, early-stage diagnosis of breast cancer significantly reduces its morbidity and mortality. However, breast cancer diagnosis in mammogram screening involves in error prone decision-making. In a pioneering work, it is reported that up to 30% of lesions are possible to be misinterpreted during routine screening. Computer-aided diagnosis (CAD) can play as a clinical auxiliary in detecting the abnormalities in mammograms. A recent study shows the use of CAD in the interpretation of screening mammogram can increase the detection rate of early-stage malignancies. In the past decades, many CAD techniques related to mammography have been proposed and attracted the attention of both computer scientists and radiologists. Most of these work focused on mass detection/classification, and micro-calcifications (MCs) detection/pattern classification. Regardless of improved detection rate, CAD systems commonly result in excessive false positives of malignancy,

which would have adverse effect on clinical decision-making. In recent years, researchers become incrementally interested in content-based image retrieval (CBIR) for medical images. Specifically for mammogram analysis, CBIR can provide doctors with content-based manner to get accesses to clinically analogical cases.

These cases of visual similarities can further facilitate decision-making on breast cancer. Different from CAD which computes the likelihood of malignancy, in practice, CBIR aims at providing radiologists with proven diagnosis and other suitable information, by recalling mammograms of past cases visually relevant to a query. With the popularity of mammography, mammograms are available in ever increasing quantities. Consequentially, leveraging clinical information from large rather than small mammogram database becomes more pivotal. Retrieval on a large number of mammographic cases could provide comprehensive reference to radiologists. However, to the best of our knowledge, few efforts have been devoted to scalable mammogram retrieval. In this paper, we investigate scalable mammogram retrieval system on more than 5222 mammographic ROIs obtained from the Digital Database of Screening Mammography (DDSM). Encouraged by the recent success of hashing methods on scalable web-image retrieval, we employ the Anchor Graph Hashing (AGH) approach. AGH derives compact binary codes from mammograms that preserve neighborhood structure inherent in image feature space with high probability, thus resulting in less memory space and computation complexity. In addition, we propose to seamlessly fuse both holistic and local features in AGH on the distance level. We conduct experiments on the aforementioned mammogram repository, to evaluate both retrieval precision and classification accuracy.

II. METHODOLOGY

Given a mammographic ROI, the CBIR seeks out relevant cases in targeted database, based on visual similarities. The framework of our retrieval system is illustrated in Fig.1. It consists of two main phases: offline learning and online query. During the offline phase, we extract image features from mammogram database and compress them into binary codes, by using Anchor Graph and spectral embedding. Such binary codes preserve the similarities in original image feature space with high probability. In the online phase, the image features of a

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**An Efficient Scheme for Inter Carrier Interference
Cancellation in High Speed OFDM System**CH.SUNDEEP KUMAR¹, S.VINAY KUMAR², MOHAMMAD JAVEED³Assistant professor, Dept. of ECE, Mahaveer Institute of Science and Technology, Hyderabad, Telangana, India¹Assistant professor, Dept. of ECE, Sree Dattha Group of Institutions, Hyderabad, Telangana, India²Assistant professor, Dept. of ECE, Sree Dattha Institute of Engineering and Science, Hyderabad, Telangana, India³

ABSTRACT: We have proposed an optimal and sub-optimal scheme for SSR ICI cancellation scheme to improve the CIR performance. The scheme is based on SSR ICI self cancellation scheme, in which a data is modulated at two symmetrically placed subcarriers i.e. k^{th} and $N-1-k^{th}$ and utilizes a data allocation of (1, -1) to improve CIR performance. To further reduce the effect of ICI, received modulated data signal at k^{th} and $N-1-k^{th}$ subcarriers are combined with weights 1 and - ξ . The λ and ξ are the optimal values resulting in maximum CIR. The optimum values of λ and ξ are the function of normalized frequency offset i.e. for every normalized frequency offset, there exist a unique value of λ and ξ . This process requires continuous CFO estimation. To overcome this problem, we have proposed a suboptimal approach to find suboptimal values. The obtained sub-optimal values (λ_{so}, ξ_{so}) are independent of normalized frequency offset. Thus, the proposed scheme does not require any CFO estimation or feedback circuitry and hence eliminates the requirement of complex hardware circuitry.

KEY WORDS: OFDM, Inter Carrier Interference, Bit Error Rate, CIR.**I. INTRODUCTION**

Orthogonal Frequency Division Multiplexing (OFDM) is being used for high data rate wireless applications. It is a multicarrier modulation technique which incorporates orthogonal subcarriers [1]. High Peak to Average Power ratio and Inter carrier interference (ICI) are two main disadvantages of the OFDM systems. Techniques for OFDM frequency division multiplexing have been shown in [2]. In OFDM systems ICI occurs due to frequency offset in between the transmitter and receiver carrier frequencies or Doppler Effect. Many techniques have been developed to reduce the effect of ICI, ICI cancellation is a simple and convenient technique. ICI self cancellation scheme proposed by Zhao [3] utilizes data allocation and combining of (1,-1) on two adjacent subcarriers i.e. same data is modulated at k^{th} and $k+1^{th}$ the sub carriers using (1,-1) as data allocation and are combined at the receiver with weights 1 and -1. It is one of the most promising techniques to reduce ICI, however, its performance degrades at higher frequency offsets. Another technique known as conjugate cancellation had been proposed by Yeh, Chang and Hassibi [4]. In this scheme, OFDM symbol and its conjugate are multiplexed, transmitted and combined at the receiver to reduce the effect of ICI. However, this scheme shows a significant improvement in CIR at very low frequency offsets and its performance degrades as carrier frequency offset increases. At higher frequency offset >0.25 its CIR performance is worse than standard OFDM system. Extension to conjugate cancellation is Phase Rotated Conjugate Cancellation (PRCC) [5] in which an optimal value of phase is multiplied with the OFDM symbol and its conjugate signal to be transmitted on different path. The optimal value of the phase depends on the frequency offset and hence requires continuous carrier frequency offset (CFO) estimation and feedback circuitry, which increases the hardware complexity.

Other ICI self cancellation scheme [6] [7] based on generalized data allocation ($1, \mu e^{j\theta}$) has been proposed in the literature to improve CIR performance of ICI self cancellation system, where μ is the optimal value, which depends on frequency offset. Thus for every normalized frequency offset, a unique value of μ is to be multiplied with the data which again requires CFO estimation and feedback circuitry. A symmetric symbol repeat ICI self cancellation scheme, which utilizes data allocation and combining of (1,-1) at k^{th} and $N-1-k^{th}$ subcarrier. This scheme shows better CIR performance than ICI self cancellation scheme. One of the major advantages of this scheme is to achieve the frequency diversity and hence its performance in frequency selective fading channel found to be better than ICI self cancellation



scheme. The coding and numerical methods have discussed in [8]. Analysis of OFDM in the Presence of Frequency Offset and a Method to Reduce Performance Degradation discussed in [6].

In this paper, we have proposed an optimum data allocation scheme for SSR ICI cancellation scheme to improve the CIR performance. The scheme is based on SSR ICI self cancellation scheme, in which a data is modulated at two symmetrically placed subcarriers i.e. k^{th} and $N-1-k^{th}$ and utilizes a data allocation of (1, - λ) to improve CIR performance. To further reduce the effect of ICI, received modulated data signal at k^{th} and $N-1-k^{th}$ subcarriers are combined with weights 1 and - μ . The λ and μ are the optimal values resulting in maximum CIR. The optimum values of λ and μ are the function of normalized frequency offset i.e. for every normalized frequency offset, there exist a unique value of λ and μ . This process requires continuous CFO estimation. To overcome this problem, we have proposed a suboptimal approach to find suboptimal values. The obtained sub-optimal values (λ_{so}, μ_{so}) are independent of normalized frequency offset. Thus, the proposed scheme does not require any CFO estimation or feedback circuitry and hence eliminates the requirement of complex hardware circuitry. Multi spectrum spread analysis have been clearly discussed in [9]. About the signal encryption in CDMA has shown clearly in [10].

II. METHODOLOGY**A. OFDM System**

The discrete time OFDM symbol at the transmitter can be expressed as

$$x[n] = \frac{1}{\sqrt{N}} \sum_{k=0}^{N-1} X(k) e^{j2\pi n k / N}, n = 0, 1, 2, \dots, N-1 \quad (1)$$

Where N is total numbers of subcarriers and X(k) denotes the modulated data symbol transmitted on k^{th} subcarrier. Due to AWGN channel and frequency offset, the received OFDM signal can be written as

$$y[n] = x[n] e^{j2\pi \epsilon n} + w[n], n = 0, 1, 2, \dots, N-1 \quad (2)$$

Where ϵ is the normalized frequency offset and $w[n]$ is the sample of additive white Gaussian noise. The received data signal on k^{th} subcarrier can be written as

$$Y(k) = X(k)S(0) + \sum_{l=0, l \neq k}^{N-1} X(l)S(l-k) + W(k), k = 0, 1, \dots, N-1 \quad (3)$$

Where $W(k)$ is k^{th} the sample of DFT of additive noise. The sequence $S(l-k)$ is defined as the ICI coefficient between k^{th} and l^{th} subcarriers, which can be expressed as

$$S(l-k) = e^{j\pi(l+\epsilon-k)(1-\frac{1}{N})} \frac{\sin(\pi(l+\epsilon-k))}{N \sin(\frac{\pi}{N}(l+\epsilon-k))} \quad (4)$$

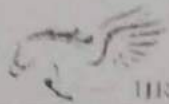
The CIR at the k^{th} subcarrier can be written as

$$CIR = \frac{|S(k)|^2}{\sum_{l=0, l \neq k}^{N-1} |S(l-k)|^2} \quad (5)$$

B. SSR ICI Self Cancellation Scheme

In SSR ICI self cancellation scheme [6], the data symbol to be transmitted at the k^{th} subcarrier is repeated at the subcarrier $N-1-k^{th}$ with opposite polarity, i.e.,

$$X(N-1-k) = -X(k), \dots, X(N-1-k) = -X(k)$$



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Web-Based interactive home automation and Security System Based on Face Recognition

SABBANI TEJA
DEPARTMENT OF ECE
HOLYMARY INSTITUTE OF TECHNOLOGY
AND SCIENCE

MR. B. KARUNAIAH
ASSOCIATE PROFESSOR
DEPARTMENT OF ECE
HOLYMARY INSTITUTE OF TECHNOLOGY
AND SCIENCE

Abstract – Smart home security control system has become indispensable in daily life. The design and development of a home security system, based on human face recognition technology and remotely monitoring technology, to confirm visitor identity and to control door accessibility has been reported in this paper. This paper describes about the implementation and deployment of wireless control system and accessibility in to a home environment for authenticated people only. A wireless network technique Wifi based and image processing technique PCA based, dedicatedly make the security system alive as per the request. Wifi module and electromagnetic door lock module combinedly operate the door accessibility, has been designed and developed. Face detection and recognition algorithms, as well as a wireless interface are used to detect and identify visitors and send an email and/or an alert message about the current home environment status via GSM network automatically to the home owner's mobile phone or any communication devices. The concerned authority can control the system through his/her mobile phone or any communication devices by sending AT Commands to GSM MODEM or by taking necessary actions for authentication through email, which is again password protected. Users can monitor visitors and control the door lock on active Web pages enhanced with JavaScript and HTML. This system finds a wide application in areas where physical presence is not possible all the time. The entire control system is built using ARM1176JZF-S microcontroller and tested for actual use in home environment.

Index Terms - Embedded Web Server, Door Access, Microcontroller, Face Recognition, GSM.

I. INTRODUCTION

An efficient and accurate embedded access control system based on face recognition is very important for wide range of commercial and security application. Many countries are gradually adopting smart home security control system [1]. [2] The most important part of any home security system is accurately identifying visitor who enter and leave through the door [3]. [4] An entrance guard can be managed using passwords, RFID sensors, finger prints and face recognition methods [5]. Face recognition is probably the most natural way to perform biometric authentication between human beings. Additionally, it is the second most popular biometric trait after fingerprints [6]-[8].

Only few researchers have implemented the face recognition techniques in an embedded system for real time applications, such as a wireless door access control system. Most of the system was implementing a principle component analysis (PCA) algorithm [9]-[12] for face recognition on

hardware platform for its simplicity and dimensionality reduction [13]-[17]. Wireless technologies like radio frequency identification (RFID), ultra wide band (UWB), and Wifi [18] etc. are used in access control systems.

The proposed system is a wireless access control system designed and developed for smart home environment. The paper proposes a Raspberry pi based door access control and home security system through webpage with Wifi based technology. The system identifies the visitor's presence, capture and transfers the image through email and/or an alert SMS via GSM network automatically to home owner to recognize the visitors. The system capability to provide access through internet, where subject of received email is read by the developed algorithm fed into Raspberry pi and system responds to the corresponding instruction with high security. The user can directly login and interact with the embedded device in real time without the need to maintain an additional server. It has a variety of features such as energy efficient, intelligence, low cost, portability and high performance.

The article is organized as follows. The system architecture is discussed in Section II, followed by system description in Section III. The system implementation and Experimental work are presented in Section IV and Section V with result respectively. Finally, Section VI draws conclusion

II. SYSTEM ARCHITECTURE

The door access control and home security system hereby reported, consisted of two components (Fig. 1), wireless control units (WCU) and a wireless information unit (WIU) linked by a radio transceivers that allowed the transfer of control information's, implementing a WSS that uses Wifi technology. The WIU has also a GPRS module to transmit the data via the public mobile network. Raspberry Pi has been chosen as the processing unit of WIU, which is a single board computer developed by Cambridge University. The Pi has been extremely popular among the academic fraternity due to its low cost. The model B+ of the Pi ships with 512Mb of RAM, 4 USB ports and an Ethernet port. It packs an ARM1176JZF-S 700 MHz processor, Video Core IV GPU into the Broadcom BCM2835 System on Chip which is cheap, powerful and also low on power. The Pi has HDMI support and has an SD card slot for booting up due to lack of BIOS and a persistent memory [19]. Python coded Algorithm has been fed into it and is connected to the internet to access and send email to the consumers.

Principal
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TECHNOLOGIES
S.



IoT Based Smart Environmental Monitoring Using ARM7

ASHWINEE KUMAR BAL

DEPARTMENT OF ECE

HOLYMARY INSTITUTE OF TECHNOLOGY AND
SCIENCE

MR. B. KARUNAJAH

ASSOCIATE PROFESSOR

DEPARTMENT OF ECE

HOLYMARY INSTITUTE OF TECHNOLOGY AND
SCIENCE

Abstract— with advancement of Automation technology, life is getting simpler and easier in all aspects. In today's world Automatic systems are being preferred over manual system. With the rapid increase in the number of users of internet over the past decade has made Internet a part and parcel of life, and IoT is the latest and emerging internet technology. Internet of things is a growing network of everyday object-from industrial machine to consumer goods that can share information and complete tasks while you are busy with other activities. Wireless Home Automation system(WHAS) using IoT is a system that uses computers or mobile devices to control basic home functions and features automatically through internet from anywhere around the world, an automated home is sometimes called a smart home. It is meant to save the electric power and human energy. The home automation system differs from other system by allowing the user to operate the system from anywhere around the world through internet connection.

In this paper we present a Home Automation system(HAS) using wireless communication that employs the integration of cloud networking, wireless communication, to provide the user with remote control of various lights, fans, and appliances within their home and storing the data in the cloud. The system will automatically change on the basis of sensors' data. This system is designed to be low cost and expandable allowing a variety of devices to be controlled.

Key Words: Home automation System (HAS), Internet of Things (IoT), Cloud networking, Wi-Fi network, Intel Galileo Microcontroller

I. INTRODUCTION

A. Overview

Homes of the 21st century will become more and more self-controlled and automated due to the comfort it provides, especially when employed in a private home. A home automation system is a means that allow users to control electric appliances of varying kind.

Many existing well-established home automation systems are based on wired communication. This does not pose a problem until the system is planned well in advance and installed during the physical construction of the building. For already existing buildings the implementation cost becomes very high.

In contrast, Wireless systems can be of great help for automation systems. With the advancement of wireless technologies such as Wi-Fi, cloud networks in the recent past, wireless systems are used every day and everywhere.

B. Advantages of Home automation systems

In recent years, wireless systems like Wi-Fi have become more and more common in home networking. Also in home and building automation systems, the use of wireless technologies gives several advantages that could not be achieved using a wired network only.

- 1) Reduced installation costs: First and foremost, installation costs are significantly reduced since no cabling is necessary. Wired solutions require cabling, where material as well as the professional laying of cables (e.g. into walls) is expensive.
- 2) System scalability and easy extension: Deploying a wireless network is especially advantageous when, due to new or changed requirements, extension of the network is necessary. In contrast to wired installations, in which cabling extension is tedious, this makes wireless installations a seminal investment.
- 3) Aesthetical benefits: Apart from covering a larger area, this attribute helps to full aesthetical requirements as well. Examples include representative buildings with all-glass architecture and historical buildings where design or conservatory reasons do not allow laying of cables.
- 4) Integration of mobile devices: With wireless networks, associating mobile devices such as PDAs and Smartphone's with the automation system becomes possible everywhere and at any time, as a device's exact physical location is no longer crucial for a connection (as long as the device is in reach of the network).

For all these reasons, wireless technology is not only an attractive choice in renovation and refurbishment, but also for new installations.

A fault tolerance approach for Multi-Page Content Addressable Memory

K.Suresh Kumar
ECE Dept.
SSJ Engineering College
Hyderabad, India.

Y.Rajasree Rao
ECE Dept.
St.Peter's Engineering College
Hyderabad, India.

K.Manjunathachari
ECE Dept.
GITAM University
Hyderabad, India.

Abstract-Content addressable memory interfacing is used in different real time applications. Such memory elements are used for accessing defined data in a storage location and fetched when requested, such as a database interface. In the storage of these memory interface, volumetric data access is made for storage and accessing. To store large volume of data, multi-page memory interface were developed. In this interfacing dual address controlling is needed. The conventional address decoder are developed as a single address pointer, so these controller are not applicable to multi-page memory interface. In addition to address controlling, fault tolerance is an additional requirement. A fault address mapping minimizes the operational performance of a addressable memory operation. In this paper, a multi-page interface controller with is proposed. As the address pointer are defined for multiple locations, the fault possibility is high, in this paper a new approach to fault tolerance, in multi-page interfacing is developed.

Index Term: Multi page interface, content addressable memory, fault tolerance, memory interface controller.

I. INTRODUCTION

Memory unit is a main part of all processing and storage application. In the process of memory interfacing address pointers were used, derived from an addressing controller unit, which are the controller unit for memory address interface. In this need, the controller unit generates an address pointer for the access of memory interface, from the user input given. In the process of content addressable memory interface, the memory interface is needed to be fault free. In the memory design modeling CAM units are majorly been used. CAM is the result of the random access memory (RAM)Technology. RAM is an integrated circuit that stores data Temporarily. The data is stored in random access memory in a particular location. In the RAM accessing, the user gives the addressing location to which the data is quenched back based on the pointer. The number of address line depth using the RAM memory is limited, but in this memory can be given Extended as desired. In the CAM application, the user Provides the data and address for interface. Search through CAM Memory clock cycle, and the address were returns where data were found. CAM can be preloaded on device startup and Rewritten during

device operation. CAM requiring any application can be used to speed applications such as image database, list, or pattern Fast Search, or Voice recognition, or computer design and communication applications. CAM is used in applications where the search time is very important, and to be for a very short period. CAM data or a parallel memory works on Instruction/Multiple Data processing. Different perspectives of CAM [1], [2] for an automatic and limited, partition using the approach on the development of the match were developed. while the region is much higher than conventional memory units, the cost of realization area is high [3], [4]. To overcome the high cost area simple regular expression matching address is evaluate, but significantly reduces performance. A comparison method and the regular expression and CAM design principles and individual approach [5]. [6] [7] [8] to reduce the search time is applied to increase its share of such costs. Different techniques [9] were suggested with number prefix assigned to the use of the data interfacing. However, this approach has its limits and limited exposure prefix short title minimizes the efficiency. This design requires minimum logic high expense records [10] to give the result. An effective and efficient approach to implementing a low-cost operation and address maps is outlined in [11]. A specified address, which is an index to an external storage system are in use under an ASCII approach and address matching design [12]. ASCII characters in a single entry, rather than the word match was outlined in [13]. [14] suggested a co-processor design where the access sub-state memory to store a list of changes to the existing pattern matching is defined. [15] proposes a pattern matching, which is a correlation algorithm to see several characters at once. Furthermore, the content of memory (CAM) to match the series, because the whole pattern once it is transferred to the CAM with the previous pattern matching is used on a large scale. The use of high-speed CAM to conduct a search in parallel is outlined in [16]. In [17] the scope of the pattern matching technique based CAM is applied to decode the data. In [18] a addressable memory with multi-mode, depending on the complex pattern matching, and

Robust Fault Tolerance in Content Addressable Memory Interface

K.Suresh Kumar¹, Y.Rajasree Rao², K.Manjunathachari³

¹Asst.Prof., ECE Dept., SSJEC, Hyderabad, suresh233661@gmail.com ,

²Prof & Dean, St.Peter's Engg College, Hyderabad., ³Prof.&HOD, ECE Dept., GITAM University, Hyderabad, India.

Abstract: With the rapid improvement in data exchange, large memory devices have come out in recent past. The operational controlling for such large memory has become a tedious task due to faster, distributed nature of memory units. In the process of memory accessing it is observed that data written or fetched are often encounter with fault location and faulty data are written or fetched from the addressed locations. In real time applications, this error cannot be tolerated as it leads to variation in the operational condition dependent on the memory data. Hence, It is required to have an optimal controlling fault tolerance in content addressable memory. In this paper, we present an approach of fault tolerance approach by controlling the fault addressing overhead, by introducing a new addressing approach using redundant control modeling of fault address unit. The presented approach achieves the objective of fault controlling over multiple fault location in different dimensions with redundant coding.

Index terms: Fault controlling, content addressable memory, recurrent address location

I. Introduction

Due to rapid growth in VLSI technology, it is possible to integrate several billions of transistors on a single chip. Process variations causes failures like read failure, access failure, hold stability failures and write failure. As part of the development of VLSI technology, System-on chip (SoC) is developed which is capable to integrate a entire system on a single chip. It may possible to integrate many processor cores with embedded memory, interconnect infrastructure and application specific circuits embedded on a single chip which reduces the size of the system from a board to chip. SoCs gives high performance and higher reliability at low cost with low power consumption. According to international technology roadmap for semiconductor (ITRS) over 90% of the chip is occupied by embedded memories in System-on chip (SOC). Testing is a measurement of defects and quality level. A circuit is tested once and for all, with the hope that once the circuit is verified to be fault free it would not fail during its expected life-time, it is called off-line testing. However, this assumption does not hold for modern day ICs, based on deep sub-micron technology, because they may develop failures even during operation within expected lifetime. To cater to this problem sometimes redundant circuitry are kept on-chip which replace the faulty parts. To enable replacement of faulty circuitry, the ICs are tested before each time they startup. If a fault is found, a part of the circuit (having the fault) is replaced with a corresponding redundant circuit part (by re-adjusting connections). Testing a circuit every time before they startup, is called Built-In-Self-Test (BIST). Once BIST finds a fault, the re-adjustment in connections to replace the faulty part with a fault free one is a design problem. BIST reduces the time to test a chip. In addition, the aggressive design rules make the memory arrays prone to defects [3]. Therefore, the overall SoC yield is dominated by the memory yield, and optimizing the memory yield plays a crucial role in the SoC environment. To improve the yield, memory arrays are usually equipped with spare elements, and external testers have been used to test the memory arrays and configure the spare elements. However, in the SoC environment, the overall test time is prohibitively increased if the test response data from the memory arrays are sent to the external testers. On the other hand, the SoC environment, combined with shrinking technology, allows us more area for on-chip test infrastructure at lower cost than before, which makes feasible a variety of built-in self-test (BIST) and built-in self-repair (BISR) techniques for reducing the test time. In this paper, design of dynamic Built-in Self-Repair for Embedded SRAM is proposed. Built-in Self-repair is used to enhance the yield for embedded memories for effective memory diagnosis and fault analysis. BISR mainly consists of Built-in Self-test, Built-in fault-analysis and Multiplexer (MUX). In the proposed BISR, each fault can be saved only once. The main aim of the proposed BISR to repair a fault using redundancy by forming one-to-one mapping of a faulty location to redundancy location. By dynamic redundancy architecture we can repair more number of faults by replacing even single bit fault with single bit redundancy bit. To present the stated approach the rest of the paper is organized as follows, section II outlines the past approaches. The conventional model of BISR for fault tolerance is outlined in section III. The proposed redundant BISR is shown in section IV. The experimental results are illustrated in section V and a conclusion is outlined in section VI.

COMPUTING MEASURE FOR FAULT TOLERANT DATA ACCESS IN CAM INTERFACE

K.Suresh Kumar¹, Y.Rajasree Rao², K.Manjunathachari³

¹Asst.Prof., ECE Dept., SSJEC, Hyderabad, ²Prof & Dean, St.Peter's Engg College, Hyderabad, ³Prof.&HOD, ECE Dept., Gitam University, Hyderabad, India.

Abstract: CAM interface has gain a great interest in recent past. It has its advantage in various real time application, such as data mining, security application, intrusion detection, medical application etc. The efficiency of these CAM application is dependent on the speed of memory accessing and the accuracy of the data retrieved. In this paper, a new interface model for a fault free and faster interfacing is been proposed. the presented paper, gives a comparative analysis of the developed interfacing unit for the proposed system.

Index Term: computing measure, fault free interface, data accessing, CAM interfacing.

I. INTRODUCTION

CAM interface has its own demand in various real time applications. Interface design is limited due to dual bottleneck of speed and accuracy of mapping. Wherein memory interface is constraint with addressing and data fetch, there always exist a probability of fault condition and error in data retrieval. it is hence required to have a fault free interface with higher speed to obtain a efficient CAM designing in digital system. Towards the objective of obtained a fault free and optimal performance in VLSI design of CAM interface, various past works were proposed. In [1] detail describe the principle of CAM functions at transistors and circuits level including core cells, match line and search line structures and power consumption formulation. Also power and area reducing techniques are presented on the circuit level. Practical design on architecture level is presented by [2]. The proposed CAM chip design is based on modification to the RAM chip circuit explained in [3]. CAM memories enhanced with "don't care" states are used for more complex project like hardware based Network Intrusion Detection and Prevention Systems [4]. CAMs have a single clock cycle throughput making them faster than other hardware- and software-based search systems. CAMs can be used in a wide variety of applications requiring high search speeds. A circuit is tested once

and for all, with the hope that once the circuit is verified to be fault free it would not fail during its expected life-time, it is called off-line testing [5]. However, this assumption does not hold for modern day ICs, based on deep sub-micron technology, because they may develop failures even during operation within expected lifetime. To cater to this problem sometimes redundant circuitry are kept on-chip which replace the faulty parts. To enable replacement of faulty circuitry, the ICs are tested before each time they startup. If a fault is found, a part of the circuit (having the fault) is replaced with a corresponding redundant circuit part (by re-adjusting connections). Testing a circuit every time before they startup, is called Built-In-Self-Test (BIST) [6]. Once BIST finds a fault, there adjustment in connections to replace the faulty part with a fault free one is a design problem. BIST reduces the time to test a chip. From the perspectives of reconfigurable and scalability, memory architectures are attractive because memory is flexible and scalable. The Aho-Corasick algorithm [7] is the most popular algorithm which allows for matching multiple string patterns. [8] proposed a configurable string matching accelerator based on a memory implementation of the AC FSM. [9] Proposed the bit-split algorithm partitioning a large AC state machine into small state machines to significantly reduce the memory requirements. [10] Presented an FPGA implementation of the bit-split string matching architecture. [11] Proposed to reduce the memory size by relabeling states of AC state machine. Additionally, [12] proposed to use Label Transition Table and CAM-based Lookup Table to significantly reduce the memory size. [13], [14] proposed a hash-based pattern matching co-processor where memory is used to store the list of substrings and the state transitions. [15] Proposed a pattern matching algorithm which modifies the AC algorithm to consider multiple characters at a time. Furthermore, the content addressable memories (CAM) is also widely used for string matching because it can match the entire pattern at once when the pattern is shifted past the CAM.

Relationship among Water Vapour Pressure, Temperature, Relative Humidity, Height and Refractive Index and their Effect on Tropospheric Scintillations on Ka band signals in South Indian region

R.Prabhakar¹, Dr.T.Venkata Ramana²

¹Research Scholar, GITAM University,
Visakhapatnam, A.P.,(India)

²Assoc..Professor. Dept of ECE,
GITAM University, Visakhapatnam, AP, (India)

ABSTRACT

To study the relationship among the Water Vapour Pressure, monthly average temperature and Relative Humidity and their effect on tropospheric scintillations in south Indian region. For that estimated the statistical characteristics of local meteorological parameters. And also observed the effect of these parameters on Tropospheric Scintillations and to be compare with the theoretical background and meteorological parameters. For this proposed New prediction model for the scintillation effect could be develop and need to specify the improvements to existing models in Indian Region.

Index Terms : Monthly average Temperature, Relative Humidity, Water Vapor Pressure.

I. INTRODUCTION

Tropospheric Scintillation(Refractive Effects)

Warming up process of earth surface cause the excitement of troposphere layer. This condition will induce turbulence into the layer. The turbulence is random fluctuations in the refractive index along path of signal transmission will contribute increase to rapid variations in the received radio signal amplitude. The effect of signal degrading is known as scintillation. It is seasonally dependent, and varies day to day with the local climate.



K. Srinivas
PRINCIPAL
MANAVEER
INSTITUTE OF SCIENCE & TECHNOLOGY
Wandeguda, Hyd-500 005.

Effect of Scintillations on Ka-band Frequency Satellite signals

R.Prabhakar¹, Dr.T.Venkata Ramana²

Research Scholar¹, Assoc..Professor²
.GITAM University,
Visakhapatnam,A.P,India

Abstract:

Scintillation is a transmission impairment. The Received Satellite signals degradation due to the scintillation on space to earth link in tropical region. This proposed work goal is to find the performance evaluation of scintillation in clear sky conditions. To estimate and compare the statistic of atmospheric scintillation based on the parameters in ITU-R model. To evaluate Atmospheric Amplitude scintillation, the parameters required are scintillation intensity, standard deviation of predicted signal, frequency, elevation angle, antenna averaging, effective, diameter of antenna, geometrical diameter of antenna and antenna aperture efficiency.

To observe the relationship between the scintillation intensity and the local environmental parameters. An experimental satellite signal measurements need to analyse and to be compare with meteorological parameters. New prediction model for the scintillation effect could be develop and need to specify the improvements to existing models in Ka band.

Index Terms— Scintillation, Amplitude, Angle, Ka-Band frequency, ITU-R and other Prediction Models.

Introduction

In telecommunications, Satellite Communications provide high bandwidth and data. Signal degradation due to solar radiation the ground surface heats up, boundary layer of atmosphere excites, causing refractive index to be varied slightly generates as the atmosphere turbulent. When signals travels through this turbulent mixing atmosphere, it will experience alternation and scattering which received and called as scintillation, Components are due to turbulence, pure scattering and apparent scintillation. Several models are applied to calculate the tropospheric scintillation such as ITU-R Model, Karasawa Yamada Allnutt model, Outing model, Ortgies model, DPSP model and Van de Kamp model etc. Scintillation also changes diurnally. And also present the effect of diurnal variation on tropospheric scintillation.

SC operates Ka-band frequency in low elevation angle 10° and low margin <3 to 4 dB are vulnerable to tropospheric scintillation. The prediction and modeling of Tropospheric scintillation effect to be important for high degradation in scintillation. Scintillation models needed to be accurate for designing systems like Karasawa and the ITU-R model that will be presented are only considering the clear sky scintillation. Analysis of measurements at Ka band frequency and elevation angle. The impact of scintillation on satellite communication systems to be developed for applying scintillation measurements on a satellite downlink to remote sensing of the atmosphere. To evaluate Atmospheric Amplitude scintillation, the parameters required are scintillation intensity, standard deviation of predicted signal, frequency, elevation angle, antenna averaging, effective, diameter of antenna, geometrical diameter of antenna and antenna aperture efficiency.

Model Specifications

ITU-R	DBSG5 database
Otung	19.8-GHz satellite link, elevation angle of 28.7° , diameter 7.6 m, Sparsholt, UK, and 1 year of data (1996)

K. Srinivas
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Bandlaguda, Hyd-500 005.



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A Detail Review on Sybil Attack and Various Routing Protocols in Vehicular Ad Hoc Network

Swati Saini¹, Jaspal Kumar²

M.Tech. Student, Department of ECE, B. S. Anangpuria Institute of Technology & Management, Alampur, Ballabgarh-Sohna Road, Faridabad, Haryana, India¹

Head of Department, Department of ECE, B. S. Anangpuria Institute of Technology & Management, Alampur, Ballabgarh-Sohna Road, Faridabad, Haryana, India²

ABSTRACT: Vehicular Ad Hoc Networks (VANET) is a kind of Mobile ad hoc networks which offers a different technique for Intelligent Transport System (ITS). VANET generally enables vehicle-to-infrastructure (V2I), infrastructure-to-vehicle (I2V) and vehicle-to-vehicle (V2V) communications. This paper review of various VANET routing protocols is significant and essential for smart ITS. This paper talks about Sybil attack and the benefits / drawbacks and the applications of several routing protocols for vehicular ad hoc networks. It examines the inspiration behind the designed, and traces the emergence of these routing protocols. At last the paper concludes the several routing protocols for VANET.

KEYWORDS: MANET, VANET, QoS, routing protocols, V2I, V2V,

I. INTRODUCTION

Vehicular networks show a specifically new class of wireless ad hoc networks that makes capable vehicles to interact with each other and/or with roadside infrastructure. Earlier, drivers were utilizing their gestures, voice, horns, and observation of each other's trajectory to maintain their nature. When the drastic increase of vehicles built this not sufficient to maintain, in the second half of the 19th century, traffic police took charge of managing and controlling the traffic utilizing semaphores, hand signals and colored lights [2]. The 1930s viewed the traffic signals automation and in the 1940s car indicators were deployed broadly. Variable-message signs were proposed in the 1960s to give information to the drivers to follow according to the current situations. The information communicated through all of these means is, since, very less: road infrastructure generally offers the same information to all cars, and the information amount that the drivers can share directly with one another is limited [8]. Currently, drivers can interchange more information i.e. traffic directions and information, to each other through citizen band radio and car phones. Wireless communication provides support to more customized and whole information to be interchanged. VANET approaches all these problems regarded to communications between vehicles and on-going research with wireless communication. It also deals with the aspects of Wireless Access for the Vehicular Environment (WAVE) standards depending on the evolving IEEE 802.11p specification.. In this paper, we utilize the term V2I to refer to both V2I and I2V communication. Organizations in several countries presently are investing in VANET to benefit wireless networking support to enhance state-of-the-art in road transportation. The US Federal Communications Commission (FCC) has distributed 75 MHz of spectrum in the 5.9GHz band for Dedicated Short Range Communications, a set of standards and protocols for short to medium-range wireless communication for automotive utilization. Many latest vehicular networking attempts are the USDOT's Vehicle Infrastructure Integration (VII), which is a cooperative first step between automobile manufacturers and USDOT, stressing on deploying communications systems feasibility for efficiency and safety of road transportation systems [9]. The ERTICO partnership is a multi-sector partnership continuing deployment and development of Intelligent Transport Systems in Europe.

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Bandlaguda, Hyd-500 005.



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A Detail Review on Mobile Ad Hoc Networks Attacks

Nikhil Verma¹, Jaspal Kumar²

M.Tech Student, Department of ECE, B. S. Anangpuria Institute of Technology & Management, Alampur, Ballabgarh-Sohna Road, Faridabad, Haryana, India¹

Head of Department, Department of ECE, B. S. Anangpuria Institute of Technology & Management, Alampur, Ballabgarh-Sohna Road, Faridabad, Haryana, India²

ABSTRACT: Mobile ad hoc networks (MANET) have risen as a major next generation wireless networking technology. This network is a network of mobile nodes with dynamic structure. Here each node acts as a router for forwarding data to other nodes. Due its dynamic nature, security has become a primary concern to provide protected communication between different nodes in ad hoc networks. There are a number of challenges in security design as ad hoc network is a decentralized network. There are five layers in MANET and each of these layers is vulnerable to various attacks. In this paper we discuss about various attacks and their protection mechanisms.

KEYWORDS: MANET, Black Hole Attack, Gray Hole Attack, DoS Attacks; Wormhole Attack

I. INTRODUCTION

A mobile ad-hoc network (MANET) is a collection of wireless mobile nodes which have the ability to communicate with each other without having fixed network infrastructure or any central base station. Since mobile nodes are not controlled by any other controlling entity, they have unrestricted mobility and connectivity to others. Routing and network management are done cooperatively by each other nodes. Due to its dynamic nature MANET has larger security issues than conventional networks. AODV is a source initiated on-demand routing protocol. Every mobile node maintains a routing table that maintains the next hop node information for a route to the destination node. When a source node wishes to route a packet to a destination node, it uses the specified route if a fresh enough route to the destination node is available in its routing table.

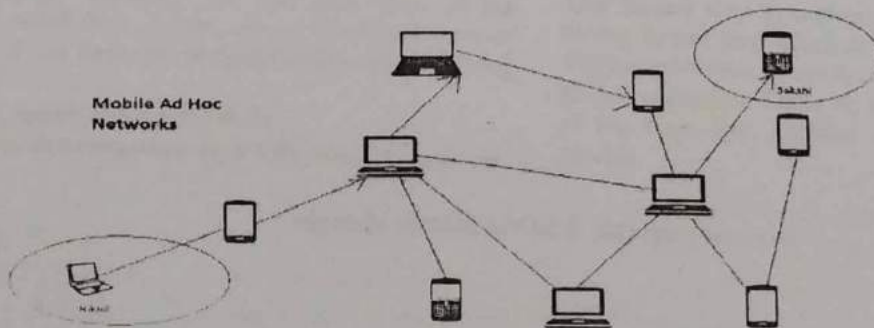


Figure 1: MANET

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Developing of AES Algorithm on FPGA

S. SHYAM KUMAR¹, M. K. KHAN²

¹PG Scholar, Dept of ECE(VLSI System Design), Krishna Murthy Institute of Technology and Engineering, India.
²Associate Professor & HOD, Dept of ECE, Krishna Murthy Institute of Technology and Engineering, India.

Abstract: All the cryptographic algorithms developed can be implemented with software or built with pure hardware. However with the help of Field Programmable Gate Arrays (FPGA) we tend to find expeditious solution and which can be easily upgraded to integrate any concordat changes. Each program is tested with some of the sample vectors provided by NIST and output results are perfect with minimal delay. The synthesis results found from FPGA implementation by Xilinx Synthesis Tool on Virtex II pro kit shows that the computation time for generating the ciphertext by AES with 4 sbox and 2 dual ports RAM is 6.922 ns.

Keywords: Cryptography, Advanced Encryption Standard, Rijndael, S-Box, Key Expansion, Cipher Text.

I. INTRODUCTION

A fundamental goal of cryptography is to adequately address the four areas in both theory and practice. Cryptography is about the prevention and detection of cheating and other malicious activities. Symmetric-key cryptography, also called secret key cryptography, is the most intuitive kind of cryptography. It involves the use of a secret key known only to the participants of the secure communication. It is characterized by the use of a single key to perform both the encrypting and decrypting of data. 56 bits is a rather small key for today's computing power, the key size is indeed one of the most controversial aspects of this algorithm. A secondary drawback is that both DES and 3DES use a 64-bit block size. The AES algorithm was selected in October 2001 after a multi-year evaluation process led by NIST with submissions and review by an international community of cryptography experts and the Rijndael algorithm [4], invented by Joan Daemen and Vincent Rijmen, was selected as the standard, which was published in November 2002. NIST's intent was to have a cipher that will remain secure well into the next century. AES uses a substitution-permutation network in a more general sense. Each round of processing in AES involves byte-level substitutions followed by word-level permutations.

II. AES ALGORITHM

In AES input to the encryption and decryption algorithms is a single 128-bit block. This block of input is depicted as a square matrix of bytes. The ordering of bytes within a matrix is by column. So, for example, the first four bytes of a 128-bit plaintext input to the encryption cipher occupy the first column of the in matrix, the second four bytes occupy the second column and so on. Similarly, the first four bytes of the expanded key, which form a word, occupy the first column of the w matrix. It was basically designed to have the following characteristics:

- Resistance against all known attacks.
- Speed and code compactness on a wide range of platforms.

- Design Simplicity.

A. AES Algorithm Process

The encryption and decryption process consist of a number of different transformation applied consecutively over the data block bits, in affixed number of iteration, called rounds. The number of rounds depends on the length of the key used for the encryption process. For key length of 128 bits, the number of iteration required are 10 that is $N_r = 10$. Each of the first $N_r - 1$ rounds consists of 4 transformations: SubBytes(), ShiftRows(), MixColumns() & AddRoundKey(). The four different transformations are given in detail below. Sub Bytes Transformation: It is a non-linear replacement of bytes that operates autonomously on each byte of the State employing a substitution table (S box). This S-box which is invertible is constructed by first taking the multiplicative inverse in the finite field GF (28) with irreducible polynomial $m(x) = x^8 + x^4 + x^3 + x + 1$. The element {00} is mapped to itself. Then affine transformation is applied (over GF (2)).

Shift Rows Transformation: Cyclically move the rows of the State over unlike offsets. The operation is equally the similar in the decryption process except at the point that the shifting offsets have dissimilar values.

Mix Columns Transformation: This transformation operates on the State column-by-column, considering each column as a four-term polynomial. The columns are taken as polynomials over GF (28) and multiplied by modulo $x^4 + 1$ with a fixed polynomial $a(x) = \{03\} x^3 + \{01\} x^2 + \{02\} x$.

Add Round Key Transformation: In this transformation is having Round Key which is added to the State by a simply XORing operation. Every Round Key contain of N_b words from the key expansion. Those N_b words are added into the columns of the State. Key Addition is the same for the decryption process.



An Efficient Design of 8T SRAM Cell Using Transmission Gates

Mekala Sravanthi

M.Tech (VLSI),

Holy Mary Institute Of Technology
and Science.

B.Karuniah, M.Tech

Assistant Professor,

Department of ECE,
Holy Mary Institute of Technology
and Science.

Y.David Solomon Raju, M.Tech

HOD,

Department of ECE,
Holy Mary Institute Of Technology
and Science.

Abstract:

Pass transistor logic (PTL) describes several logic families used in the design of integrated circuits. It reduces the count of transistors used to make different logic gates, by eliminating redundant transistors. Transistors are used as switches to pass logic levels between nodes of a circuit, instead of as switches connected directly to supply voltages. Speed and the overall performance of any digital signal processor are largely determined by the efficiency of the multiplier units present within. The use of Vedic mathematics has resulted in significant improvement in the performance of multiplier architectures used for high speed computing. This paper proposes 4-bit and 8-bit multiplier architectures based on UrdhvaTiryakbhyam sutra. These low power designs are realized in 45 nm CMOS Process technology using Mirowind and DSCH3.5 tool.

Keywords:

Vedic multiplier, UrdhvaTiryakbhyam, CMOS, High speed, Low power.

1. INTRODUCTION:

Low power issues have become an important factor in modern VLSI design. The limited power capacity systems had given rise to more power aware designs by designers. Now-a-days, power has become a crucial factor than area or speed. However, different implementation technologies present different power optimization opportunities. Real time digital signal processing today involves rigorous multiplication operations, which increases the computational complexity of modern day signal processors. The performance of such processors largely rests on the effectiveness of the multiplier units embedded within.

A typical multiplier block comprises of a chain of AND gates to generate the partial product terms and an adder assembly to add them. The speed limitation associated with conventional multiplier architectures is largely due to the latency introduced by long adder tree structures. The power consumption of a multiplier unit is also a major design concern. Several research works have been reported over the years to optimize the performance of multiplier topologies. The basic approaches are to reduce the switching activity of the partial products [1], to reduce the number of nonzero partial product terms by effective encoding of the multiplier inputs and to realize a high speed adder tree for fast addition of the partial products. The Booth encoded multiplier topology [2, 3], Wallace tree based multiplier design [4-5] and compressor based multiplier architecture have provided noticeable performance enhancement over the conventional array multiplier. However the use of Vedic mathematics for multiplication [6-10] resulted in significant improvement in the overall speed and power consumption of a multiplier topology, due to the parallel computing approach.

The paper proposes low power multiplier architectures based on Vedic mathematics for high speed computing. The proposed 4-bit and 8-bit multiplier topologies based on the Urdhva Tiryakbhyam (vertically and crosswise) [11] sutra of Vedic mathematics are realized using 45nm CMOS process technology. A 5T AND gate design, based on pass transistor logic and transmission gate logic, has been used in this work for generation of partial products instead of the conventional 6T CMOS based design. The adder chains used in the multiplier units comprise of 14T full adders and 9T half adders optimized for

Smart Home Implementation Based On Wifi Technology

P. RAJU, PG STUDENT

B. Karunaiah, ASSOCIATE PROFESSOR

DEPT OF ECE

holy Mary institute of technology and science, bogaram (v), keesara (m),
rangareddydist, pin code: 501301

ABSTRACT:

Smart home has become more and more popular in recent years. It aims at helping people to manage the home appliance freely and build an autonomous environment in home or work area. This paper introduces a wireless solution based on Internet protocol to manage the smart home units easily. Based on this approach, we design a smart home system with the implementation of related software and hardware. People can use smart phones or tablets to control or monitor the home appliances both locally and remotely. Low cost WiFi module is used to build Smart Units.

I. INTRODUCTION: Home automation has an important role in today's human life and it improves the quality of people's life by facilitating a comfortable and safe environment. In international markets Internet based home automation systems is one of the most popular system. This paper presents a low-cost internet based Smart Home System, which uses wifi technology for communication and an Android based application for control of home appliances. With the help of Smart home system the user can supervise household appliances remotely and realize real-time monitoring of home security status through mobile phone. Users can exchange information with home appliances and can monitor and control equipment to perform their commond

remotely. This system uses android smart phone to monitor and control the various house parameters given its advantages over using a dedicated pc. Wifi technology is used as the network infrastructure for communicating between the different parts as there are advantages of high reliability, easy configurability, system extendibility and good adaptability. The home appliances are connected to the basic I/O ports of the embedded system board and their status is continuously updated to the server. Authentication techniques are implemented so that only authorized user can access home appliances. The core component of the system is an ARM Microcontroller. Android is open source software and provides access to lots of useful libraries and tools. The application and system is completely user friendly. Any smart phone user can easily run the application in his/her mobile without any prior training. The designed system has the option for adding more relays to get control over more appliances if he/she wants. So altogether the system is a modern smart home system which can give us the experience of smart living. The system updates the household data to the remote server, allowing the user to control the household devices easily and remotely. Section 2 gives an overview of the proposed system, its architecture, the technologies used and why they are chosen. Section 3 discusses about the design and implementation of the system from

GSM-Based System for School Children Transportation Safety Enhancement

M.Gururaj, Pgstudent

B. Karunaiah, Associate Professor

DEPT of ECE

Holy Mary Institute of Technology and Sciences, bogaram(v) , keesara(M)
,rangareddy(D),501301

Abstract- Millions of children need to commute between homes to school every day. Safer transportation of school children has been a critical issue as it is often observed that, kids find themselves locked in the school bus at the bus stop after going to school, they miss the bus, or ride the wrong bus with no way to track them. This project intends to find yet another solution to solve this problem by developing a bus safety system that will control the entry and exit of students from the buses through an energy efficient methodology. The proposed system will control the entry and exit of students to and from the bus using RFID (Radio Frequency Identification) and GSM technologies to ensure the entering and exiting of all students to and from the school bus in a safer manner. The process does not require any additional action by the student and drivers. The system will do all the process and allow the student to be tracked while entering and leaving the bus and If all the students were wearing seat belts mean, it will allow bus driver to start the bus for safety precaution. If the bus journey is successful from the source to destination, it will send an SMS to the management to inform its departure and arrival.

Keywords – Bus Safety System, RFID (Radio Frequency Identification), GSM&GPS modem

I.INTRODUCTION

School buses transfer millions of children daily in various countries around the world. While there many issues that might disturb the parents regarding the travel safety of school going children, the paper intends to look into introducing access safety in respect of school buses through bus tracking system that will help the school children"s transportation in a secure and safer way. The supervision of the regularity of students during their entry and exit from the bus is difficult to be controlled by drivers, which led to endangering child safety, which has increased significantly in recent years.

This has often led to the death of many students on account of suffocation due to the lack of attention of derivers. This project, through entry and exit recordings, aims to create a suitable environment by following certain set of criteria of security and safety for school bus that will have a positive impact on the student and their family. The paper proposed a bus safety system which was designed to control the entering/exiting of students from the bus. This system does several tasks, including identifying personal information (Eg. Name) of each student using RFID tag, which will exchange the data with the RFID reader via radio waves and

Self-Controllable Voltage Level Based CMOS Current Comparator

KONDERU SATISH KUMAR¹, B.KARUNAI AH², Y. DAVID SOLOMON RAJU³

¹PG Scholar, Dept of ECE, Holy Mary Institute of Technology and Science, Bogaram, Hyderabad, TS, India.

²Assoc Prof, Dept of ECE, Dept of ECE, Holy Mary Institute of Technology and Science, Bogaram, Hyderabad, TS, India.

³Assoc Prof & HOD, Dept of ECE, Dept of ECE, Holy Mary Institute of Technology and Science, Bogaram, Hyderabad, TS, India.

Abstract: This paper presents, low power CMOS current comparator exploitation the technique with Self Voltage Level Controllable. because the technology is lowering, supply voltage and threshold voltage decreases. So the power consumption within the circuit can become a significant drawback and huge quantity of static power dissipates. Moreover, the structure of the short channel device lowers the Threshold (V_{th}) voltage even lower. A is Self Voltage Level Controllable principally accustomed low Leakage power consumption reduction. We carried out this analysis using Tanner EDA 13.0 tools.

Keywords: Current Comparator, Self Voltage Level Controllable, Low Power, Low Leakage Reduction.

I. INTRODUCTION

Current mode circuits are becoming designer's interests now a day, as they offer many unique and attractive properties over their voltage mode complements. This includes higher speed, higher bandwidth, reduced distortion, low supply voltage requirements and lesser sensitivity to switching noise[1]. With the need for high speed and/or low power consumption as CMOS VLSI devices are scaled down in size, current-mode operation have been considered as an alternative in analog circuit designs. Comparators are used in Data converters and other front-end signal processing applications. In Earlier days Voltage Comparators are very common and most popular ones. However, the Voltage Comparator encounters several great difficulties including Operational frequency, power consumption and input offset voltage. Current Comparison has done by giving different current sat the input of the comparator and finding the output voltage. The output Voltage generated by the comparator is used conveniently to indicate the result of operation. First widely accepted Current Comparator proposed by H.Traff [1]. Circuit uses source follower input stage and a CMOS inverter as the positive feedback. Circuit operation is limited by the requirement of minimum input current 10uA is necessary to perform the comparison. Below this value the comparator provides distorted output signal. In [2] offset free current comparator had demonstrated with an input current range up to 0.5uA. Drawbacks of this comparator are, it requires more number of MOS components and consumes more power. Later Byung-moo Min and Soo-won Kim [3] had come up with a new current comparator. It has the requirement of an extra current reference generator and a resistor. Speed of operation of the circuit is very less when compared to our proposed new circuit.

In 2000, the author had come up with a current amplifier cum comparator [4] has the response time of 50nS for 5uA input current, which indicates very much delayed response when compared to the response time of the recently published designs. Several current comparators are proposed in recent year. The first CMOS continuous time current comparator was proposed in [5], which consists of two cascade current mirror. The drawback of this design was in terms of high speed and frequency operations [6]. A new design has been proposed [7] which uses inverter stage in feedback with source-follower stage. But the circuit shows a dead band region for low value currents, where input impedance is quite high and thus limiting speed of operation. Self Voltage Level Controllable based circuit is used to reduce the leakage power and the power consumption. SVL technique effectively used to build logic. The previously used techniques are multi- Threshold Voltage CMOS (MTCMOS) and Variable threshold- voltage CMOS (VTCMOS) are the two regularly used techniques for reducing stand- by leakage power [8]. The MTCMOS technique requires an additional fabrication process for higher threshold voltage and the storage circuits are not able to retain data. The VTCMOS technique has major drawbacks as well, such as large area penalty, slow substrate-bias controlling operation and large power overhead. Therefore, in order to skip the above mentioned drawbacks; a SVL circuit was chosen which minimizes stand-by leakage power whilst maintaining high-speed performance. In presenting paper, we are comparing the result of SVL based comparator circuit and CMOS based comparator circuit. The remaining paper is organized as follows: Section II is about current comparator with CMOS technology, section III explains SVL technique to reduce the leakage while in Section Finally, Section V concludes the paper.

FEM ANALYSIS OF FUSELAGE FRAME USING GLASS FIBER REINFORCED POLYMER

G. SUDARSAN, Assistant Professor, Department of Aeronautical, Mahaveer Institute of Science and Technology, Hyderabad, Telangana, India
Email: sudarshan.gajula@gmail.com

R. RAJENDER, Assistant Professor, Department of Aeronautical, Mahaveer Institute of Science and Technology, Hyderabad, Telangana, India
Email: rajendher.raj@gmail.com

Abstract

In this paper analysis of fuselage frame using GFRE has been studied using FEM. When the air passes over wing, due to the pressure variation between the upper and lower surface of the wing lift force is generated this force will be distributed to fuselage frame. The aim of this present study is to analyze the fuselage frame of an airplane frame using Glass fiber reinforced polymer (GRFP) and propose suitable material for fuselage frame. The frame is designed in solid modelling software CATIA V5 R20 and analysis was done using FEM by using ANSYS. Static structural analysis of the frame is done to find total deformation and strain induced in the frame structure. Modal analysis is done to find the natural frequency of the frame to reduce the noise and avoid vibration. Finally fatigue life analysis is carried out to find out the damage, life and factor of safety of the frame due to applied pressure loads.

Introduction

The portion of the airplane which houses the passengers on payload is referred to as fuselage. Fuselage vary greatly in size and configuration. The wing reactions, landing gear reaction, empennage reaction will be subjected to large concentrated forces over fuselage. In count to these loads fuselage also subjected to inertia forces due to size and weight, internal pressures. To handle these internal pressures efficiently, a combination or circular cross section is required.

The fuselage of a modern aircraft is a stiffened shell commonly referred as semi-monocoque construction. Semi-monocoque structure is very efficient, it has a high strength to weight ratio, and it has design flexibility and can withstand local failure

without total failure through load redistribution. Longitudinal elements transverse elements and its external skins were present in fuselage as beam.

The cellular components consist of thin-walled channel, T-, Z-, 'top-hat' or I-sections, provide support for internal loads were used to stiffen the structure. Structural members are known as open section beams and cellular components are termed as closed section beams. Both sections are subjected to axial, bending, shear and torsional loads.

Frequently aircraft components comprise of combination of open and closed section beams

Literature review

The fuselage of various kinds of aircraft have significant differences in their layouts, the primary role is similar in all cases. The difference is the pressurization requirement of most passenger aircraft, which affects the fuselage volumes. The structural shape of the fuselage is close to ideal. The depth and width are approximated to match the vertical and lateral bending and the reaction of the torsion. Basically, a rectangular cross-section is advantageous in terms of maximum space utilization. It is not suitable for general commercial aircraft since substantial pressure differential is required. The stresses due to internal pressure are minimized by use of circular arcs



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CFD ANALYSIS OF HELICOPTER MAIN ROTOR AND SIMULATION OF ROTOR AERODYNAMICS

N MAHESH 1,* Dr. ATAL BIHARI HARICHANDAN 2,*

1* Dept. of Aeronautical Engg., MIST, HYDERABAD, TS, India.

2* Dept. of Aeronautical Engg., KIIT Bhubaneswar, India

E-Mail of the corresponding author: maheshane12@gmail.com

Abstract— The Bell 212 helicopter is one of the major general purposes utility rotorcraft currently in use in SLAF which is containing NACA 0012 aerofoil in the two blades of main rotor. The primary objective of this research project is to evaluate the aerodynamics behavior of the Bell 212 main rotor in hovering, forward and vertical flight by conducting Computational Fluid Dynamics (CFD) analysis and make comparison with the theoretical solutions in both Blade Element and Momentum theories. The CFD simulations have been done in subsonic flight regimes only. As a means of validating the results, the CFD analysis has been done with turbulence model. CFD analysis of a rotating blade was achieved by using the rotating mesh. A 1:1 SOLID WORKS solid model (14.201m) of Bell 212 main rotor was used to generate computational mesh and subsequent CFD simulations were performed mainly with ANSYS Fluent. A surface and volume mesh continuum was generated that contained approximately seven million polyhedral cells, where the Finite Volume Method (FVM) was chosen as a discretization technique. During the post processing phase of the CFD results, the aerodynamic characteristics of the Bell 212 main rotor have been predicted in terms of main rotor speed of 800rpm for hovering forward and vertical flight with angles of attack of the blades to 2°. In CFD simulation process, results were recorded such as rotor RPM, Tip velocity, Mass flow rate, Heat flux, Temperature changes and total and static pressure variation over and around the main rotor. Throughout those values comparisons have made with theoretical aerodynamic results under Blade Element theorem and Momentum Theorem. An implicit unsteady flow solver, with an ideal gas and a SST (Menter) K-Epsilon turbulence model were used. Hover, vertical and forward cases were examined. Several aerodynamic forces such as Coefficient of Drag, Coefficient of Lift and Coefficient of Momentum were estimated during the Fluent analyzing process in CFD. The flow physics revealed with CFD analysis are well aligned with selected main rotor practical theories in both Blade Element and Momentum theories in hover, vertical and forward flight maneuvers. The forecasted values of aerodynamic parameters for Bell 212 main rotors are little bit different than expected. It has been found this particular fact is directly related to computational limitations associated with CFD. The final outcomes of this research will provide a better guide in future CFD analysis on the helicopter main rotor analysis since it is more valuable as a rotating meshed CFD research.

Keywords— Bell212, CFD, Turbulence models

1. INTRODUCTION

A. BELL 212 HELICOPTER

Model 212 is a single pilot, fifteen place twin engine helicopter with a two-blade semi-rigid, main rotor and a two bladed tail rotor that provides directional control. It was chosen as project model to access data easily. It has two bladed, semi rigid flapping type main rotor. Each blade is connected to a common yoke by a blade grip and pitch change bearings with tension straps to carry centrifugal forces. Allowing rotor to flap, main rotor has a mast with a bearing mounted trunnion. Blade pitch change is accomplished by movement of collective and a series of controls terminating at blade grip horn. Ascending helicopter is done by upward movement of collective, which help to increase angle of attack of rotor blades. Downward movement of collective causes descending the helicopter. Movement of cyclic controls the tilting of the helicopter. Tail rotor has a two bladed system, mounted on right side of vertical fin. Helicopter main rotor is the major component of any rotorcraft which gives the main rotational power to the aircraft to generate the lift force and make it fly. Also it helps to do all the rotorcraft maneuvers such as hover, vertical and forward flight in its operation. Main rotor diameter is 14.69m (48ft). Max thickness 12% at 30% chord. Chord length of the NACA 0012 is 23.38 inches. At low Reynolds numbers, this airfoil's characteristics will be unsteady, with fluctuations in lift, drag, and pitching moment.

Study the selected rotorcrafts' main rotor in both Blade Element and Momentum theorem with the actual values and do the CFD simulation for the same will be nominated as the research problem. The results from both ways will be compared at the end of the research. Future actions can be taken to improve the quality of the results of the research. Final findings of this research were helped to develop the model designing and CFD simulation knowledge.

B. CFD

Computational fluid dynamics is a branch of fluid mechanics that uses numerical methods and algorithms to solve and analyze problems that involve fluid flows. CFD is particularly dedicated to the fluid, in that motion and how the fluid flow behavior influences process, that may include heat transfer and possibly chemical reactions. The physical characteristics of the fluid motion can usually be described through fundamental mathematic equations usually in partial differential form which govern a process




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Hyderabad, India - 500 005

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Investigations on Laser glazing of Lanthanum based TBCs Using Taguchi Approach

D NAVEEN*¹ S. R. Dhinesh kumar*²

^{1*} Dept. of Aeronautical Engg., MIST, HYDERABAD, TS, India.

^{2*} Dept. of Aeronautical Engg., MIST, HYDERABAD, TS, India

E-Mail of the corresponding author: aerodhinesh@gmail.com

E-Mail of the corresponding author: dubbaka.naveen1@gmail.com

Abstract— An experimental investigation on Laser glazing of Lanthanum based TBC has been carried out. The effect of process parameters and their influences on surface roughness and adhesion strength are investigated using single objective optimization method. The double layer TBC consists NiCrAlY and LaTi₂Al₉O₁₉ (LTA) as bond coat and ceramic coat were fabricated by an air plasma spraying process over Ti-based super alloy Ti6Al4V. The present exploration focuses on the influence of laser power (500 & 800 W) and scan speed (800 & 1000 mm/s) on the surface roughness and adhesion strength with regard to laser surface glazing. The experiments were planned by Taguchi's design of experiment approach. The outcomes of the proposed methods are verified by confirmation tests and it is revealed that the high laser power and low scan speed can produce low surface roughness and also significant improvement in the tensile adhesion strength.

Keywords— Laser Glazing; Ti Alloy Ti6Al4V; Surface Roughness; Adhesion Strength.

I. INTRODUCTION

Thermal barrier coatings have wide application on gas turbine engines, power generators and boilers to meet the increasing demands on higher working temperature [1]. The mechanical properties influences the development of functionally graded thermal spray coatings [2]. Since integrity of coating mainly relies upon the mechanical bonding. Several laboratory test methods are available for the evaluation of adhesion strength [3]. Although tensile test method is the one commonly used for evaluation of coating adhesion. The limitation of this conventional method is the need to fix the coated specimen using the appropriate adhesive. This adhesive will significantly influence the coatings original adhesion values. Determination of tensile adhesion strength and other mechanical failure modes of plasma spray coatings by peeling the coatings surface with constant or increasing load has already been studied satisfactorily [4]. In addition roughness is very essential for optimization of mechanical parameter of plasma spray.

In this study the basic understanding on effect of laser glazing on the TBCs through the measurement of adhesion strength by tensile adhesion test and roughness by experimental methods. The material used in the test were double layer LTA coatings whose mechanical and microstructure were compared and discussed before and after laser glazing.

An experimental investigation on Laser glazing of TBCs detailed the importance of power and the scan speed is the influential process variable for improving the surface roughness [5]. The experimental plan is important to determine the significance of the process variables. Taguchi's approach is an influential method for experimental planning and resolving the single objective optimization problems too. An investigation has been done on laser cladding by finite element analysis [6]. The various optimization methods have been employed to determine the better machining characteristics for various advanced machining process [7, 8].

It is surmised from the literature there are lack of credible work available for single aspect optimization of laser glazing of TBC using Taguchi approach. Performance measures namely Adhesion strength, and surface roughness are need to be considered.

II. EXPERIMENTAL SETUP

2.1 Materials

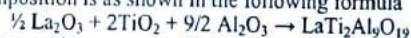
The chemical composition of the Titanium super alloy substrate is given in Table I. Super alloy coupons were prepared with dimensions of 25 x 25 x 3 mm using abrasive cutting machine and WEDM. The sectioned substrate were first grit blasted using alumina and then cleaned with acetone prior to APS coating.

TABLE I
TITANIUM ALLOY Ti6Al4V

Ele.	Ti	C	Fe	N	Al	O	V	H	Y
All oy	Bal	0.08	0.40	0.05	6.1	0.2	3.8	0.025	0.005

2.2 Synthesis of LTA powder

The basic ceramic powders (La₂O₃, Al₂O₃ and TiO₂) were mixed with the stoichiometric ratio. The composition is as shown in the following formula



These oxides were mixed with molar ratio of 1:4:9 and ball milled for 24h for proper mixing. The mixed powders were heated at 1000 °C for 7h and continued with increasing the temperature to 1773 °C for 10h to obtain a pure product using Tubular furnace.



COMPARATIVE STUDY OF COMPOSITE MATERIALS USING FEM FOR AIRCRAFT WING STRUCTURE

D NAVEEN,

Assistant Professor, Department of Aeronautical Engineering, Mahaveer Institute of Science and Technology, Hyderabad. dubbaka.naveen1@gmail.com

R.RAJENDER,

Assistant Professor, Department of Aeronautical Engineering, Mahaveer Institute of Science and Technology, Hyderabad rajendher.raj@gmail.com

Abstract. This paper deals with the analysis of composite material such as unidirectional carbon, woven carbon and compared with Aluminum 2024 (Al 2024). Presently Aircraft wing was manufactured using Al 2024. The wing 3D model is designed in CATIA V5 R20 and analysis is done by using ANSYS. The results were taken based on the static structural analysis to find deformation, stress, and strain developed in the wing structure. Modal analysis is carried out to note amplitude variation.

Keywords: FEM, Modal analysis, Aircraft Wing, unidirectional carbon, woven carbon

1. Introduction

Airplanes industry under gone great developments in terms of carrying huge loads, reducing costs and increasing safety factors by focusing on multifunctional materials that are composites. These materials satisfy many advantages by replacing the metals by equivalent composite components. The composite materials used in aviation industry are mainly fibers or resin-reinforced particles. Generally, the modern airplanes with composite parts are about 20-50% lighter than their conventional versions. The composites also have some inherent weaknesses. The laminated structure with weak interfaces is weakly resistant to tensile loads as well as to the degradation of high temperature work.

Traditional aircraft materials include aluminum, steel and titanium which have been replaced by fiberglass, such as composites. The performance benefits of reducing the weight of structural elements of aircraft have been a

major impetus for the development of military aircraft.

Wings were manufactured from Aluminum alloys for civil applications or from Titanium alloys for military applications. Recently, composites are the most widely used materials in aircraft, including skin, control surfaces and the body core.

The main purpose of this paper is to find a suitable material for the wing such as composite to replace the conventional Aluminum 2024 (Al-2024) used to make the wing skin. A composite laminate is a collection of layers of fibrous materials, such as carbon fiber, fiberglass; aramids contained in a matrix material that can be combined to provide required specific and desired properties. The laminate is formed by arranging the individual layers one above another in desired orientation. The fiber which is dyed in the membrane in different orientations carries the load. The matrix material supports the fibers and protects fibers from damage. The main function of the matrix is to transfer load to the fiber and to hold the fiber in a predefined position and orientation.

2. Materials and Methods

In this paper wing 3D model was designed by using CATIA.

Table 1. Input parameters for wing design

Parameters	Dimensions
Root chord	2350mm
Tip chord	710 mm
Semi span length	5000mm



FEM ANALYSIS OF FUSELAGE FRAME USING GLASS FIBER REINFORCED POLYMER

G. SUDARSAN,

Assistant Professor, Department of
Aeronautical, Mahaveer Institute of Science
and Technology, Hyderabad, Telangana,
India
sudarshan.gajula@gmail.com

M. TIRAPATAIAH,

Assistant Professor, Department of
Aeronautical, Mahaveer Institute of Science
and Technology, Hyderabad, Telangana,
India
muvva.thiru@gmail.com

Abstract

In this paper analysis of fuselage frame using glass fiber reinforced polymer has been studied using FEM. When the air passes over wing, due to the pressure variation between the upper and lower surface of the wing lift force is generated this force will be distributed to fuselage frame. The aim of this present study is to analyze the fuselage frame of an airplane frame using Glass fiber reinforced polymer (GRFP) and propose suitable material for fuselage frame. The frame is designed in solid modelling software CATIA V5 R20 and analysis was done using FEM by using ANSYS. Static structural analysis of the frame is done to find total deformation and strain induced in the frame structure. Modal analysis is done to find the natural frequency of the frame to reduce the noise and avoid vibration. Finally fatigue life analysis is carried out to find out the damage, life and factor of safety of the frame due to applied pressure loads.

Introduction

The portion of the airplane which houses the passengers on payload is referred to as fuselage. Fuselage vary greatly in size and configuration. The wing reactions, landing gear reaction, empennage reaction will be subjected to large concentrated forces over fuselage. In count to these loads fuselage also subjected to inertia forces due to size and weight, internal pressures. To handle these internal pressures efficiently, a combination or circular cross section is required.

The fuselage of a modern aircraft is a stiffened shell commonly referred as semi-monocoque construction. Semi-monocoque structure is very efficient, it has a high strength to weight ratio, and it has design

flexibility and can withstand local failure without total failure through load redistribution. Longitudinal elements transverse elements and its external skins were present in fuselage as beam.

The cellular components consist of thin - walled channel, T-, Z-, 'top-hat' or I-sections, provide support for internal loads were used to stiffen the structure. Structural members are known as open section beams and cellular components are termed as closed section beams. Both sections are subjected to axial, bending, shear and torsional loads.

Frequently aircraft components comprise of combination of open and closed section beams

Literature review

The fuselage of various kinds of aircraft have significant differences in their layouts, the primary role is similar in all cases. The difference is the pressurization requirement of most passenger aircraft, which affects the fuselage volumes. The structural shape of the fuselage is close to ideal. The depth and width are approximated to match the vertical and lateral bending and the reaction of the torsion. Basically, a rectangular cross-section is advantageous in terms of maximum space utilization. It is not suitable for general commercial aircraft since substantial pressure differential is required. The stresses due to internal pressure are minimized by use of circular arcs



DESIGN AND ANALYSIS OF A TRUSS TYPE FUSELAGE USING FEM

N. MAHESH,

Assistant Professor, Department of
Aeronautical Mahaveer Institute of Science
and Technology, Hyderabad, Telangana,
India
maheshane12@gmail.com

DR. R. DINESHKUMAR,

Assistant Professor, Department of
Aeronautical Mahaveer Institute of Science
and Technology, Hyderabad, Telangana,
India

Corresponding author Email:
acrodhinesh1990@gmail.com

ABSTRACT

This paper elucidate the CFD analysis of truss type fuselage. The fuselage is made up of welded tubular steel frame construction. In this paper fuselage geometry has been designed using a CATIA design software and analyzed using ANSYS Mechanical ADPL. The main dimensions were assumed using 2-D drawings, due to lack of original dimensions. The dimensions were extracted experimentally from an original aircraft. Computational fluid dynamic program for the horizontal tail were used for aerodynamic loads finite element method (FEM) has been used for Static structural analysis by fastened connection property among the frames. The results were found at the front part of the engine mount, next on the mid-section which offers cantilever support for the wing and landing gear and the rear section supports the horizontal and vertical stabilizers;. The displacements, Von Mises stresses, and principal stresses were found in the three sections and found satisfactory except for a small area near the connection between fuselage and wing.

1. INTRODUCTION

The name fuselage is derived from the word fuseler, which means "to streamline". The fuselage should be streamlined and strong so that it can withstand the forces that are created in aircraft. Fuselage is an airplane main body part that supports crew and passengers. The functions of an aircraft fuselage include all of the following; holds the structure for wings and tail, structure that contains the cockpit for the pilot and structure that allow aircraft to carry cargo, passengers, and equipment.

Fuselage must be able to resist bending moments (caused due to the weight and lift

from the stabilizers), torsional load (caused by control surfaces) and cabin pressurization. The popular shape of the fuselage in commercial aircraft is circular or near circular with tapered nose and tail section. Therefore to achieved airplane stability and maneuverability, airplane fuselage plays an vital role in positioning the control surfaces and stabilization surfaces in precise to produce lifting. The fuselage can be class into three basic sections which are pilot cabin, engine and tail section

Fuselage Pressurization

Fuselage constitutes the shell containing the payload which must be carried a certain distance at a specified speed. It must permit rapid loading before the flight and rapid unloading after it. The fuselage structure also offers protection against climatic factors (cold, low pressure, a very high wind velocity) and against external noise, provided suitable measures have been taken. The fuselage may be regarded as the central structural member to which the other main parts are joined (wings, tail unit and in some cases the engines) on the one hand, and as the link between the payload and the aircraft on the other.

In some aircraft a number of these duties are assigned to tail booms. Most of the aircraft systems are generally housed in the fuselage, which sometimes also carries the engines, fuel and/or the retractable undercarriage.



Thermo-mechanical characterization of laser textured LaMgAl₁₁O₁₉/YSZ functionally graded thermal barrier coating

Muhammed Anaz Khan ^a, Muthukannan Duraiselvam ^a ✉, S.S. Panwar ^b, Trilochan Jena ^b, S.R. Dhineshkumar ^c

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Highlights

- Plasma sprayed graded coatings were laser textured for improved ablation resistance.
- Discrete layers in as-sprayed ceramic composite inhibit the stress concentration.
- Grooves compensate the expansion of ceramic layers and curtail the stress formation.
- Optimal width to depth ratio and groove spacing improved the ablation resistance.
- Textured surfaces having higher roughness impart increased adhesion strength.

Abstract

The ablation resistance and adhesion strength of laser textured and as-sprayed functionally graded LaMgAl₁₁O₁₉/YSZ based thermal barrier coating (FG-TBC) was studied and compared with a duplex coating of LaMgAl₁₁O₁₉ and YSZ (DC-TBC). The thermal barrier coatings were sprayed over Hastelloy C263 using atmospheric plasma spray process (APS). The laser texturing

K. S. Mahaveer

PRINCIPAL
MAHAVEER
INSTITUTE OF SCIENCE & TECHNOLOGY
K. S. Mahaveer
500 005



Effect of laser glazing on the thermo-mechanical properties of plasma-sprayed $\text{LaTi}_2\text{Al}_9\text{O}_{19}$ thermal barrier coatings

S. R. Dhineshkumar, Muthukannan Duraiselvam, S. Natarajan, S. S. Panwar, Trilochan Jana & Muhammed Anaz Khan

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Enhancement of strain tolerance of functionally graded $\text{LaTi}_2\text{Al}_9\text{O}_{19}$ thermal barrier coating through ultra-short pulse based laser texturing

S.R. Dhineshkumar ^a, Muthukannan Duraiselvam ^b  , S. Natarajan ^a, S.S. Panwar ^c, Trilochan Jena ^c, Muhammed Anaz Khan ^b

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Highlights

- Functionally graded $\text{LaTi}_2\text{Al}_9\text{O}_{19}$ were air plasma sprayed on Ni alloy substrate.
- Surface of FG TBC were directly textured using pico-second Nd:YAG laser.
- Thermal shock test were used to study strain tolerance behaviour of textured TBC.
- Laser surface texturing of coating could alleviate thermal stress effectively.

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Abstract

Functionally Graded Thermal barrier coating (FG-TBC) based on $\text{LaTi}_2\text{Al}_9\text{O}_{19}$ was prepared via air plasma spray and textured using pico-second Nd:YAG laser (wavelength 532 nm, 3 W) over the coating surface to resist the delamination or failure stresses caused by thermal mismatch when exposed to high temperature. Different laser scan speeds, depth and width were set on each



Enhanced ablation resistance through laser glazing of plasma sprayed $\text{LaTi}_2\text{Al}_9\text{O}_{19}$ -based functionally graded thermal barrier coating

S.R. Dhineshkumar^a, Muthukannan Duraiselvam^b  , S. Natarajan^a, S.S. Panwar^c, Trilochan Jana^c, Muhammed Anaz Khan^b

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Abstract

The functionally graded (FG) thermal barrier coating of $\text{LaTi}_2\text{Al}_9\text{O}_{19}$ (LTA) and 8% yttria stabilized zirconia (YSZ) over C263 Nickel alloy was deposited by air plasma spraying and NiCrAlY was used as a bond coat. Plasma sprayed samples were glazed using 3 kW CW CO_2 laser to produce dense and porous free surface layer to improve coatings ablation resistance. Duplex (DL) LTA/8YSZ coating was also fabricated for comparative studies. The coatings were subjected to hot combustion gas product of hydrogen fuel at a temperature of $\sim 800^\circ\text{C}$ and velocity of Mach 2 (680 m/s) to evaluate their ablation behaviour. The phase composition and microstructure of the coatings were characterized by X-Ray Diffraction (XRD) and Scanning Electron Microscope (SEM) analysis. It was observed that the laser glazing significantly reduced the surface roughness and improved the ablation resistance. The duplex layer was found porous and got detached completely because of thermal stress and volume expansion. Spallation of coatings occurred mainly due to shear force associated with hot gas. The laser glazed FG coating exhibited excellent ablation resistance and phase stability. It is concluded that the Laser glazing of FG LTA/YSZ is beneficial for better ablation resistance.

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INSTITUTE OF SCIENCE & TECHNOLOGY
Ranglaquda, Hyd-500 011



EFFECT OF HERBICIDES ON MYCOFLORA OF RICE FIELD SOILS

Dr. S. RAVINDER REDDY

Assistant Professor, Department of
Environmental Science
Mahaveer Institute of Science and
Technology, Hyderabad- 500005, India
ravinder20121.rr@gmail.com

RAJENDRA GOUD

Assistant Professor, Department of
Environmental Science
Mahaveer Institute of Science and
Technology, Hyderabad- 500005, India
ravinder20121.rr@gmail.com

Abstract

Microbial degradation occurs when microbes such as fungi and bacteria utilize the pesticide as a source of food. An increase in the biological capacity of the soil to degrade pesticides/herbicides is attributed to the proliferation of microbes using the pesticide as a source of carbon and Nitrogen/ or energy. Herbicides glyphosate, topstar and butachlor are used in Nalgonda district of Andhrapradesh, for controlling weeds in rice fields. The impact of herbicide application on soil mycofloristics was assessed in the present study employing czapek dox agar (CZA) during Kharif and Rabi seasons. The fungi, thus isolated from different herbicide treated soils were tested for their ability to tolerate the herbicide butachlor. The herbicide butachlor has no effect on fungus growth at 20ppm concentration. Majority of fungi tolerated low levels (20ppm) of butachlor as evident from

various pesticides and herbicides in soil has become lethal to the soil microbial community affecting the overall soil microbial dynamics. Besides photochemical degradation, microbial degradation is an important natural phenomenon in the mineralization of pesticides in soil.

Biodegradation is a process that exploits the catabolic abilities of micro organisms to degrade harmful chemicals such as herbicides. The success of biodegradation depends on the availability of microbial strains that can mineralize high levels of recalcitrant substances and withstand adverse conditions to complete under

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VERTICAL CHARACTERISTICS OF OCEANIC BOUNDARY LAYER OVER PALAU

K MADHUSUDHANA

Assistant Professor, Department of
Physics, Mahaveer Institute of Science and
Technology, Hyderabad, Telengana, India,

K MADHAVA RAO

Assistant Professor, Department of
Physics, Mahaveer Institute of Science and
Technology, Hyderabad, Telengana, India,
kallumadhu9@gmail.com

Abstract:

The Atmospheric Boundary Layer (ABL) above ground and sea is quite a cry because of the various powerful and changing signs of the state. The structure and characteristics of ABL above sea level, commonly referred to as the Marine Boundary Layer (MBL) play an important role in controlling surface energy, humidity fluxes and in controlling the convective transfer of energy moisture of the free atmosphere. It is imperative for coupled ocean-atmosphere modelling and numerical weather prediction. PALAU (Pacific Area Long-term Atmospheric observation for the Understanding of climate change) over Aimeliik state of Babeldaob Island (7.45 ° N; 134.47 ° E) of the Republic of Palau field study can advances our knowledge of marine stratocumulus by providing information on the surface layer and cloud structure, well their diurnal cycle.

An important parameter of the MBL is the height of the MBL which is controlled by the

and the depth of the maritime layer with a good temporal and vertical resolution. A new algorithm for determining the height of the MBL has been developed and tested for its effectiveness using Radiosonde, ceilometers and WRR views on the islands of Palau in the Tropical Western Pacific Ocean. The viewing results obtained from our algorithm show a good agreement with the MBL measured in the standard order of height. Using a new algorithm to detect MBL heights, evolving evolution and its seasonal variations have been investigated. The height of the MBL indicates the variability of the shift and its magnitude in the afternoon and a slight decrease to reach the night. The seasonal variation of the MBL peak is large in April and smaller in September. The impact of the sun's rays and low air pressure on the BML is being investigated. Clearly, the upper rays of the sun are responsible for the high elevation of the MBL in the eastern rainy season and the release of

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Bandlaguda, Hyd-500 005.



GENERALIZATION OF RHODES THEOREM TO A SEQUENCE OF SELF MAPS

Dr. Sujatha Kurakula

Department of Mathematics
Mahaveer Institute of Science and
Technology
sujathakurakula99@gmail.com

P. Mahendra Varma

Department of Mathematics
Mahaveer Institute of Science and
Technology
mahendravarma12@gmail.com

ABSTRACT *In this research article we considered a seq- of self maps on a complete 2-metric space satisfying contractive type condition. The Rhodes fi- point theorem can be obtained as a corollary to this generalization*

AMS Subject Classification 47H10, 54H25

Key words : Fi -point, 2- Metric space , Cauchy- sequence, Self mapping

INTRODUCTION

In 1906, *Frechet* ([1] & [2]) introduced the notion of metric(met) as an abstract generalization of length concept. The notion of 2-metric was introduced by *Gahler* [3] in 1963 as an abstract generalization of the concept of area function for Euclidean triangles. The

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Bandlaguda, Hyd-500 005.



MOLECULAR COMPLEXES OF ROSUVASTATIN CALCIUM WITH - ACCEPTORS

DEEPTHI K, ASSOCIATE
PROFESSOR
DEPARTMENT OF CHEMISTRY,
MAHAVEER INSTITUTE OF
SCIENCE AND
TECHNOLOGY, HYDERABAD.
deepthivarmakatari@gmail.com

SWAPNA.K, ASSOCIATE PROFESSOR
DEPARTMENT OF CHEMISTRY,
MAHAVEER INSTITUTE OF
SCIENCE AND
TECHNOLOGY, HYDERABAD.
viswa1108@gmail.com

Abstract The molecular reaction of Rosu-Ca, with various -acceptors like tetracyanoethylene, p-chloranilic acid, 2,3-dichloro-5,6-dicyano-1,4-benzoquinone, 2,3,5,6-tetrabromo-1,4-benzoquinone, 1,3,5-trinitrobenzene, 2,3,5,6-tetrachloro-1,4-benzoquinone, 7,7,8,8-tetracyanoquinodimethane, and 2,4,7-trinitro-9-fluorenone gives CT complexes w. The donar and acceptor correlation was determined by uv-visible spectrophotometric techniques .The obtained colored complexes was use for the development of accurate spectrophotometric methods for the determination of Rosu-Ca. The absorbances, concentrations of Rosu-Ca is in the range of 2-200

[methyl(methyl- sulfonyl)-amino] pyrimidin-5-yl](3R,5S)-3,5-dihydroxyhept-6-enoic acid calcium salt, is a synthetic HMG-CoA inhibitor exerts its action by specifically inhibiting the HMG-CoA reductase, the enzyme that catalyzes the conversion of HMG-CoA to mevolanate, which limits the biosynthesis of cholesterol in the body. Inhibition of the enzyme decreases de novo cholesterol synthesis, increasing expression of LDL receptors on hepatocytes. This increase the uptake of low density lipoprotine by the hepato cytes.

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COMMUNICATION SKILLS IN EMPLOYABILITY OPPORTUNITIES

M. JAYASREE

Assistant professor, Department of
Humanities & Sciences
Mahaveer Institute of Science &
Technology, Hyderabad, Telangana.
mjsree27@gmail.com

G.P.RAGINI

Assistant professor, Department of
Humanities & Sciences
Mahaveer Institute of Science &
Technology, Hyderabad, Telangana.
ragini.662016@gmail.com

ABSTRACT

Communication is the ability to communicate with others effectively. Communication skills play an important role in this competitive world and are one of the essential parts of almost any job. This paper highlights the importance of communication skills in employability and discusses various suggestions for improving communication skills for better employability. We know communication is among the most commonly listed employability skills for jobs and is in demand across most industries, disciplines and professions. Employers look for candidates with strong communication skills like strong written, verbal, and nonverbal communication skills. In professional life communication skills are the key to build relationships. The ability to communicate effectively is very important and enhance accordingly is also important in professional life. It helps us to get along with colleagues and understand the importance of interacting with others at workplace. The inability to communicate with others can lead to a lot of problems both personally and professionally. A person may have good knowledge on the academics, but having only subject knowledge is not sufficient for achieving job. In this competitive world a person's performance is evaluated mainly on the basis of the ability to communicate effectively. To be successful in professional life a person needs to adopt all the skills required and apply them in the respective field. Personality development of a person remains incomplete, if the communication skills are ignored. Many people fail to impress their employees/recruiters due to lack of communication skills even though they are strong in academics. Communication skills and Employability skills enable the learner to with stand the increasing levels of competition at every phase of life.

Keywords: Communication, employability, verbal and nonverbal communication.

I. INTRODUCTION

In today's competitive world, employers often look for skills that go beyond academic qualification known as Employability skills. Employability skills are often called as soft skills, they are the core skills needed for everyone to sustain in a job. These skills make a person desirable to an organization. Communication skills are an important part of these employability skills because it is an essential part of almost any job. Effective Communication Skills is the most important soft skill today, in the Academics as well as in the Job market. Communication has always been important in the workplace. A person with strong communication skills will be able to grab more employment opportunities compared to others who have same academic qualifications and skills. Employers always look for candidates with the right skills and qualities who can contribute to the organization's success Adair, John(2003).

A person with strong 'hard skills' related to their academics may be able to manage the job role, but employers always incline to hire persons with effective communication skills. Communication skills are very hard to teach than other job specific skills. Job specific skills can be acquired through education and experience, but communication skills need to be practiced. They cannot be learned theoretically alone. These skills are individual, and reflect your personality at workplace. They are



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GLOBALIZATION: ITS IMPACT ON THE USE OF ENGLISH LANGUAGE

Dr. M. PRATIBHA

Professor & HOD

Department of H&S

Mahaveer Institute of Science & Technology,

Hyderabad, Telangana, India - 500 005

m.pratibha77@gmail.com

ABSTRACT

This study portrays the effect of globalization on the usage of English language. Globalization, "is the increased interconnectedness and interdependence of people and countries" WHO (World Health Organization) (2021). Globalization has a direct effect on language learning and particularly on the English language. Globalization resulted into several changes all over the world. These changes include cultural, economical, social, etc. The renewed interest of the last thirty years in English language among people throughout the world has been linked to technological developments in different sectors. A number of people, who are using English language, are increasing day-by-day. Demand for using and learning English language is growing because of better employment opportunities, social recognition, increased business opportunities, the smooth running of day-to-day activities, it is fashionable, it is modern, etc. Globalization leads to several changes in the English

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ENGLISH COMMUNICATION CONVERTS INTO POWERFUL EXPRESSION

A. YELLAIAH

Assistant Professor of English

AAR MAHAVEER INSTITUTE OF SCIENCE AND TECHNOLOGY

BANDLAGUDA, HYDERABAD, TELANGANA STATE

alli.yellaiah1@gmail.com

Abstract

With growing importance of English as a global language, communication skills in English is very important for the powerful expressions in different global professions. Powerful communication in English and English language skills play key role in increasing the employability of the candidates across the world.

The basic objective of the powerful communication in English to prepare the candidates to use English effectively, communicate confidently and powerfully in different contexts of daily situations. The good language skills required for the work place as well as for social interaction and personal growth in one's chosen profession.

To make, the learning more comprehensive for the powerful communication, the following skills in English is required. 1. Listening 2. Speaking 3. Reading 4. Writing 5. Vocabulary 6. Grammar 7. Pronunciation 8. Conversations 9. Comprehension 10. Some fixed expressions in English.

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Bandlaguda, Hyd-500 005.

SOME ASPECTS OF THE CONVECTIVE BOUNDARY LAYER STRUCTURE OVER COMPLEX TERRAIN IN SEMIARID REGIONS

K Madhusudhana, K Madhavi, K Madhava Rao

Assistant Professor, Mahaveer Institute of Science and Technology, Bandlaguda, Hyderabad,

Telangana, India. Email: kallumadhu007@gmail.com

Abstract

This study documents the dynamics and evolution of elevated stable layers (ESL) over complex terrains around Gadanki valley in semiarid region of southern India during different seasons. The data used in this study were obtained from L-band lower atmospheric wind profiler radar (hereafter LAWP or WPR), Joss-Waldvogel Disdrometer (JWD), optical rain gauge (ORG) and Automatic Weather station (AWS). The analysed boundary layer shape suggests a robust have an impact on of the underlying terrain. Until noon, a almost terrain following capping inversion developed. However, advective approaches proved to play an essential position in the boundary layer shape over the hilly terrain. So, the large-scale air go with the flow prompted suppression of the convective boundary layer increase at the mountain ridge through forcing the capping inversion in the direction of the elevation of the terrain; The advection of bloodless air with the aid of up-slope winds reduced the heating price close to the floor and used to be in a position to generate an inversion above the up-slope wind layer. In the late afternoon, the terrain following shape of the capping inversion diminished and the capping inversion tended to foam. This study illustrates importance of understanding synoptic and mesoscale meteorological processes associated with convective boundary layer evolution in topographic regions of different seasonal climatic variability. Key words—Wind profiler, complex terrains, boundary layer structure, winds

1. INTRODUCTION

The structure and dynamics of a convective boundary layer (CBL) are fairly well understood, but the presence of topography alters certain features. In the Gadanki valley region, there is, at times, significant directional wind shear above $0.7 z_i$ in the convective boundary layer. Despite vigorous convective mixing, appreciable vertical scalar gradients are observed. In the extreme, cross-valley horizontal advection and along-valley channelling leads to multiple afternoon inversions within and above the Gadanki Valley (Fig. 1). These differential advection consequences have now not been considerably documented nor are they accounted for in mesoscale forecasting, air great fashions and interference on terrestrial and satellite

Empowering the Indian Engineering Graduates with Soft Skills: Problems and Solutions

Anil S Apuru

Assistant Professor of English
Mahaveer Institute of Science and technology
Bandlaguda, Hyderabad-5

M. Jayasree

Assistant Professor of English
Mahaveer Institute of Science and technology
Bandlaguda, Hyderabad-5

G.P.Ragini

Assistant Professor of English
Mahaveer Institute of Science and technology
Bandlaguda, Hyderabad-5

Abstract

The world has changed over the last century, so has the world of work, where employers are highly concerned with the skills of young labour market entrants as they are facing difficulties in filling vacant positions. Their difficulty in finding skilled candidates stems from two sources: Skills Shortage (lack of appropriately skilled graduates at a particular level of education and in the right field of study) and the Skills Mismatch (Adequate number of graduates with requisite education but lacking inappropriate job skills). The employment market is becoming more and more competitive as greater numbers of students are undertaking higher education courses and, therefore, Skills Shortage is no longer a problem. The main problem is the Skills Mismatch as the employers are looking for professionals who have more to offer than simply a good degree. The major setback here is that plagued with problems like curriculum, lack of qualified faculty, poor quality of content, and not-so-effective examination system, technical institutions do not provide signalling value in the job market, for a disparity exists in the types of skills taught at colleges and those that are demanded in industry and the gap exists mainly because there is a lack of clear understanding regarding industry skills requirements. Therefore, it is critical to identify specific bottlenecks in skills demanded by employers, and to provide detailed information and

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NEW CHALLENGES OF THE INFORMATION COMMUNICATION TECHNOLOGY (ICT) TOOLS IN ELT

Dr. Pratibha¹ | Dr. N CH Ranganath² | Mr. Ananad³

¹Professor and Head of the Department, Mahaveer Institute of Science and Technology
Bandlaguda, Hyderabad-5.

²Associate Professor of English, Mahaveer Institute of Science and Technology
Bandlaguda, Hyderabad-5.

³Assistant Professor of English, Mahaveer Institute of Science and Technology
Bandlaguda, Hyderabad-5.

Abstract

Information Technology (ICT) breakthroughs have brought new opportunities to streamline the learning and knowledge transfer environment. Information technology has unfolded new avenues and challenges to learners and Teachers. The responsibility of learning has shifted to the learners and this allowed the Teachers to change their roles in tandem. However, it is the quality of the teacher which determines the learning process but not the technology This paper discusses the changes that Teachers would experience during this new learning environment and the implications on their pedagogic practice. ICT also shares what Teachers say about using information technology in teaching.

Keywords: information technology, pedagogic practices, roles, Teachers.

Overview

The 21st Century boons more challenges to Teachers around the world as they have to utilize their skills of creativity and technology smartly in the modern classroom. The breakthrough in the IT sector has brought many opportunities and challenges the Teachers as it is a progressive device in education. Teachers are using outdated methods of teaching and materials in their profession over the years. As the world draws nearer to the digital age, instructors need to stay up to date with the advances in Technology and Inventive Academic Methodologies (IAM). ICT about the Internet has additionally changed the way of teaching and learning process.

The new methodologies should be executed innovatively. As such, educating and learning in the new climate require complex changes and substantial reevaluation. This additionally implies that the conventional strategies should be reconsidered to accomplish academic objectives. The educator can be abandoned with the customary strategies for instructing and learning if they are to contend seriously in the global field. ICT is, thusly, vital for them to be prepared to acknowledge the ICT which accompanies numerous difficulties. On the whole, ICT comprises the Internet/web, media, and PC. ICT comes in various structures like direct management, self-educational courses, informative videos, online learning, and digital books. This list has no shape or a comprehensive form as the structures keep on changing. The key

PRINCIPAL

A New algorithm for Solving Type-4 Fuzzy Transportation Problems using Pentagonal fuzzy numbers

¹ P Mahendra Varma, ² Dr V Vasanth kumar, ³ C Shruti

¹ Research Scholar K L Deemed to be University, Vijayawada, Andhra Pradesh, India .
e-mail: mahendravarma12@gmail.com

² Professor of Mathematics K L Deemed to be University, Vijayawada, Andhra Pradesh, India .
e-mail: vvkumar@kluniversity.in

³ Assistant Professor of Mathematics Mahaveer Institute of Science and Technology, Hyderabad, Telangana, India.
e-mail: shrutikranti@gmail.com

Abstract

In this article, we look at pentagonal fuzzy numbers to solve the fuzzy transport problem. A new approach is proposed for finding optimum strategy to a transshipment problem. Proposed technique on this paper offers the great answers on balanced and unbalanced fuzzy transportation problem. The approach has been illustrated with the assist of an example.

1 Introduction

Introduction A shipping problem is nothing more than a plan to ship goods from multiple sources to multiple destinations. This is the definition of minimum cost and maximum benefit. In transportation matters, shipments play an important role. This is because the shipment of goods occurs between a source and a destination, but instead of shipping directly to the destination, goods can be transported to a specific destination through one or more intermediate points. This is the intermediate point we call the transshipment point. A transshipment point is a point where goods can be received at another point and sent to another point. The transshipment issue is an extension of the shipping issue with additional features. A transshipment problem is not a direct connection from one point of origin to one of the destinations, but rather a series of points. For example, suppose that a quantity of material shipped is available at any point, such as a replenishable warehouse. This is a function of all directions. Most of the time, transportation cost of transshipment problem is minimized. It is widely used in planning bulk distribution. Transportation issues are well known and have been studied for a long time to minimize overall costs. The task of transshipment is to minimize the transit period. To solve the problem of inaccurate information, Zadeh introduced fuzzy set theory. Kaufmann introduced fuzzy numbers and investigate with arithmetic operations. Baskaran formulate the fuzziness in the goal programming formulation. They used unbalanced transshipment problem with budgetary constraints in which the demand and budget are specified imprecisely. Mohanpriya and Jayanthi determined the efficient solutions for the large-scale fuzzy transshipment problem. They solved transshipment problem by VAM to find the efficient initial solution for the large-scale transshipment problem. Baskaran considered transit points, but these points have no demands. They convert transshipment problem as transportation problem. Ghani studied the problem of fuzzy transfers with mixed constraints. Rajarajendran and Pandian proposed a new partitioning method to find the optimal solution. This separation method fully extends to fuzzy transshipment operations.

Keywords: Fuzzy set, pentagonal fuzzy number, Type-2 fuzzy transportation problem, Type-4 fuzzy transportation problem, Optimal solution

MICROBIAL UTILIZATION OF HERBICIDE BUTACHLOR AND PRODUCTION OF FUNGAL BIOMASS

Dr. S. Ravinder Reddy, Dr. K. Swapna
Assistant Professor, Department of Environmental Science
Mahaveer Institute of Science and Technology, Hyderabad- 500005, India
email:ravinder20121.rr@gmail.com

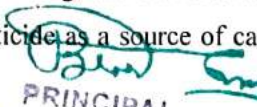
ABSTRACT

Microbial degradation increased with support of microbes such as fungi and bacteria. Microbes using the pesticide as a source of energy. Growth of selected Microorganisms on czapek-dox agar (CZA) medium amended with butachlor was assessed to evaluate the ability of aspergilli and *Trichoderma* species to utilize the herbicide as a source of carbon and nitrogen sources. Fungi were fast growing on an unamended control. There was a considerable reduction in the growth of aspergilli and *Trichoderma* species on the medium lacking nitrogen and carbon sources. Addition of butachlor to the medium did not show much effect on the growth. However, there was no difference in the growth of aspergilli and *Trichoderma* species when nitrogen source was substituted by butachlor. Growth of aspergilli and *Trichoderma* species were reduced by 50% in the absence of carbon source which was substituted by butachlor. Butachlor could support the growth of aspergilli and *Trichoderma* species up to almost 50% level in the absence of carbon source in the medium.

Key words: czapek-dox agar (CZA) medium, butachlor, *Aspergilli*, *Trichoderma* fungi

Introduction

Microorganisms grow a mid-wide spectrum of physico-chemical environments. A wide variety of factors effect on the rate and extent growth of microorganisms. The soil pH play important role in growth of soil fungi. Most fungi shown good growth at acidic pH (5.5 to 6.0). Microbial degradation increased with support of microbes such as fungi and bacteria which are utilize the pesticide as a source of food. Microbes using the pesticide as a source of carbon and Nitrogen and energy.


PRINCIPAL
MAHAVEER
INSTITUTE OF SCIENCE & TECHNOLOGY
Bandlaguda, Hyd 500005



**APPLICATIONS OF SURFACE INTEGRALS IN FLUID DYNAMICS****PRAKASH N**

Assistant Professor

Department Of Humanities & Sciences

Mahaveer Institute Of Scienc & Technology

Bandlaguda Hyderabad

ABSTRACT: Based on the known facts of surface integrals on fluid dynamics says, the vector F acts as flow of a fluid so surface integral F will denote the quantity of fluid flowing in the surface. (per unit time).

It is also defined, the quantity of fluid flowing across the surface per unit time is FLUX of fluid across the surface. So we call surface integral of a vector is a FLUX INTEGRAL. The main idea of the subject explains us that, the fluid is flowing perpendicular to the surface, maximum fluid flows hence flux is large. Whereas if fluid flows collateral to the surface the flux is zero. Further calculation of whole quantity of fluid flowing across the surface is obtained by adding up the component of vector F that is perpendicular to the surface. If water is flowing perpendicular to the surface, huge water will flow across the surface & flux will be more, on the other hand if water is flowing collateral to surface, water will not flow across the surface & the flux will be zero. By adding part of vector F perpendicular to the surface we can calculate whole quantity of water flowing across the surface. The choice of unit normal vector ' n ' orient the surface & determines sign of the fluid flux. The whole quantity of fluid across the surface is determined by the part of F which is in the direction of ' n ', by $F \cdot n$. We have to note that $F \cdot n$ is 0 if F & n are perpendicular, positive if F & n are pointing in the same direction & negative if F & n are pointing in opposite directions. Let's illustrate this with the function $f(x,y) = (x \cos y, x \sin y, y)$ that minimizes a helicoid for uv belongs to D which equals Cartesian product of $[0,1]$ and $[0,3.14]$. We choose the upward

PRINCIPAL
MAHAVEER
INSTITUTE OF SCIENCE & TECHNOLOGY
Bandlaguda, Hyd-500 005.


The Role of TASK, A Bridge between Higher Education Institutes and Industries, in Enhancing the Employment Opportunities of Students in the State of Telangana, India


 M. Pratibha


DOI: <http://dx.doi.org/10.21013/jmss.v14.n1.p3>


Abstract


The present study is an endeavour to have some insights into TASK's activities and to provide possible suggestions to reduce the present gap between HEIs and industry. TASK has been introduced in the four-year-old state of Telangana to find the need to promote academic freedom in producing skilled professionals. In the process of developing innovative schemes to fill the gap between HEIs (Higher Education Institutes) and industries, the state of Telangana, India, has started TASK (Telangana Association for Skill and Knowledge) in the year 2015. TASK is a non-profit organization with an objective of offering quality human resources and services to the industry at subsidized rates. Courses

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About The Author

M. Pratibha

Professor-English & HoD-
Humanities and Sciences,
Mahaveer Institute of Science
and Technology, Hyderabad
India

PhD

K. S. S. S.
PRINCIPAL
MAHAVEER
INSTITUTE OF SCIENCE & TECHNOLOGY
Bendlaguda, Hyd-500 005.

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Peer Reviewed Open Access

Language Learning and Teaching Using New Technologies

M. Prabha

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Abstract

How the new technologies can be used to assist the language learning and which innovative applications are helpful to meet the continuously increasing demands of

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About The Author

Prabha

PRINCIPAL
MAHAVEER
INSTITUTE OF SCIENCE & TECHNOLOGY
Bandlaguda, Hyd-500 005.

CHARGE-TRANSFER COMPLEXES OF ROSUVASTATIN CALCIUM WITH π -ACCEPTORS

*KUCHARLAPATI. DEEPTHI
RESEARCH SCHOLAR
RAYALASEEMA UNIVERSITY
KURNOOL

**DR.R.NARENDER GOUD
PROFESSOR
CMR INSTITUTE OF SCIENCE AND TECHNOLOGY
HYDERABAD

Abstract

Studies were carried out to investigate the charge-transfer (CT) reaction of ROS-Ca, as a n -electron donor with various π -acceptors: tetracyanoethylene, *p*-chloranilic acid, 2,3-dichloro-5,6-dicyano-1,4-benzoquinone, 2,3,5,6-tetrabromo-1,4-benzoquinone, 1,3,5-trinitrobenzene, 2,3,5,6-tetrachloro-1,4-benzoquinone, 7,7,8,8-tetracyano-quinodimethane, and 2,4,7-trinitro-9-fluorenone. Different colored CT complexes were obtained. The reaction mechanism and site of interaction were determined by ultraviolet-visible spectrophotometric techniques and computational molecular modeling. The formation of the colored complexes was utilized in the development of simple, rapid and accurate spectrophotometric methods for the determination of ROS-Ca. Under the optimum reaction conditions, linear relationships with good correlation coefficients (0.9984–0.9995) were found between the absorbances and the concentrations of ROS-Ca in the range of 2–200 $\mu\text{g mL}^{-1}$. The limits of detection ranged from 0.41 to 12.24 $\mu\text{g mL}^{-1}$. No interference could be observed from the additives commonly present in the tablets or from the drugs that are co-formulated with ROS-Ca in its combined formulations. The methods were successfully applied to the analysis of tablets with good accuracy and precision; the recovery percentages ranged from 99.54–100.46 \pm 1.58–1.82%.

Keywords: atherosclerosis; cholesterol; rosuvastatin calcium; charge-transfer complexes; spectrophotometry; pharmaceutical analysis

Introduction

Rosuvastatin calcium (ROS-Ca, bis[(*E*)-7-[4-(4-fluorophenyl)-6-isopropyl-2-[methyl(methylsulfonyl)-amino] pyrimidin-5-yl](3*R*,5*S*)-3,5-dihydroxyhept-6-enoic acid calcium salt, Figure 1) is a



SPECTROPHOTOMETRIC AND THERMAL STUDIES OF CHARGE TRANSFER COMPLEXES

K. Deepthi^{1*} and R. Narendar²

¹Research Scholar, Rayalseema University, Kurnool, Andhra Pradesh, India.

²Department of Humanities and Sciences, CMR Engineering college, Hyderabad, Telangana, India.

*Corresponding Author Email: deepthivarmakatari@gmail.com

ABSTRACT

Itraconazole (ITZ) is a distinguished antifungal representative that also has anticancer commotion. In this study, we recognize ITZ as a wide-ranging inhibitor of enteroviruses (e.g., poliovirus, coxsackievirus, enterovirus-71, rhinovirus). We exhibit that ITZ reduces viral RNA duplication by aiming oxy-sterol-binding protein (OSBP) and OSBP-related protein 4(ORP4). Time after time, OSW-1, a precise OSBP/ORP4 antagonist, too restrains enterovirus replication. Giveaway of OSBP inhibits virus replication, while over expression of OSBP or ORP4 offsets the antiviral belongings of ITZ and OSW-1. ITZ binds OSBP and inhibits its purpose, i.e., shuttling of cholesterol and phosphatidylinositol-4-phosphate between membranes, thus likely disturbing the virus-induced membrane alterations are also indispensable for viral replication organelle construction. ITZ also inhibits hepatitis C virus replication, which also relies on OSBP. Together, these data implicate OSBP/ORP4 as molecular targets of ITZ and point to an imperative utility of OSBP/ORP4-mediated lipid barter in virus replication that can be besieged by antiviral meds.

KEY WORDS

Drug, human, infections, membranes, proteins, virus

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INTRODUCTION

The family Picornaviridae encloses a lot of significant human being and animal pathogens. The genus Enterovirus embraces poliovirus (PV), coxsackievirus (CV), echovirus, numerous numbered enteroviruses (e.g., enterovirus-71 [EV71]), and human rhinovirus (HRV). Apart from for PV, no vaccines are accessible to put off contagions with enteroviruses and no antiviral meds are presented for healing. Additional significant human picornaviruses comprise hepatitis A virus and human parechovirus (HPeV). Eminent animal pathogens are foot-and-mouth ailment virus and encephalo-myocarditis virus (EMCV).

The genome of enteroviruses consists of a 7.5 kb single-stranded RNA molecule of affirmative polarity [(+) RNA]. It encodes a sole polyprotein that is

proteolytically processed by the viral proteases into the structural proteins (VP1–VP4) and the nonstructural proteins (2A–2C and 3A–3D). The viral genome is simulated by assemblies of viral and host proteins to be found on intracellular membranes termed replication organelles (ROs). The ROs are fashioned as an outcome of virus-induced remodeling of secretory pathway membranes, which presumably starts at the Golgi complex [1], finally ensuing in a multifaceted network of tubulovesicular membranes [2]. Viral alteration of lipid homeostasis is thought to play a major function in RO configuration. Viral proteins 2BC and 3A take part in a foremost part in the membrane rearrangements by recruiting necessary host aspect for enterovirus replication to ROs, such as phosphatidylinositol-phosphate-4-kinase III beta (PI4KIIIb), a Golgi-localized

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Promoting Self-Learning in Developing Communication Skills of Technical Students

Dr. M. Pratibha

Professor-English

Vidya Jyothi Institute of Technology, India.

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K. Sankar

PRINCIPAL
MAHAVEER
INSTITUTE OF SCIENCE & TECHNOLOGY
Bandlaguda, Hyd-500 005.

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A STUDY ON RENEWABLE ENERGY SOURCES AND MICROBIAL FUEL CELLS

S Venkata Raju
Assistant Professor
Department of Physics
D.N.R Degree college,
BHIMAVARAM, West Godavari Dt. A.P

K Madhusudhana
Department of Physics
Mahaveer Institute of Science and Technology
Bandlaguda,
HYDERABAD, Telangana.

Abstract

Renewable energy is the energy created by sources, which are naturally replenished such as sunlight, rain, wind and tides. Although there is much debate about how to define and distinguish renewable energy from non-renewable, other energy types such as biomass, biofuel and anaerobic digestion are also widely considered as renewable energy. Microbial fuel cells(MFCs) that generate electricity by the break-down of organic matter(e.g. wastewater) have a great potential for the future energy and environmental challenges. MFCs are often compared with anaerobic digestion, which also uses microbial activity for

Kishf
PRINCIPAL
MAHAVEER
INSTITUTE OF SCIENCE & TECHNOLOGY
Bandlaguda, Hyd-500 005.

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Volume II, Issue VI SEPTEMBER

STUDY ON VERTICAL STRUCTURE OF MARINE BOUNDARY LAYER OVER PALAU

S Venkata Raju

Assistant Professor

Department of Physics

D.N.R Degree college,

BHIMAVARAM, West Godavari Dt. A.P

&

K Madhusudhana

Department of Physics

Mahaveer Institute of Science and Technology

Bandlaguda,

HYDERABAD, Telangana.

Abstract:

Atmospheric Boundary Layer (ABL) over land and ocean surface is quite different because of the differing dynamic and thermodynamic characteristics of both the surface. The structure and characteristics of the ABL over the oceanic surface, often known as the Marine Boundary Layer (MBL) plays an important role in regulating the surface energy, moisture fluxes and in controlling the convective transfer of energy moisture of the free atmosphere. It is imperative for coupled ocean-atmosphere modelling and numerical weather prediction. PALAU (Pacific Area Long-term Atmospheric observation for the Understanding of climate change) over Aimeliik state of Babeldaob Island (7.45° N; 134.47° E) of Republic of Palau field study can

K. S. R.

PRINCIPAL
MAHAVEER
INSTITUTE OF SCIENCE & TECHNOLOGY
Bandlaguda, Hyd-500 005.

Mulliken's Theory in Charge-Transfer Complexation

Kucharlapati Dcepthi
Research Scholar
Rayalaseema University
Kurnool, A.P., India

Abstract - The nature of the attraction in a charge-transfer complex is not a stable chemical bond and is much weaker than covalent forces, rather it is better characterized as a weak electron resonance. As a result, the excitation energy of this resonance occurs very frequently in the visible region of the electromagnetic spectrum. This produces the usually intense colors characteristic for these complexes. The optical absorption bands are often referred to as charge-transfer bands, or CT bands. Therefore optical spectroscopy is a powerful technique to characterize charge-transfer bands. The CT- complexes extend from hydrogen bonding to proton transfer reactions including solvent polarity scales based on them. These complexes are becoming increasingly important in all fields of human endeavour from physics and chemistry and biology to medicines. Currently there is an opinion among some scientists that these complexes are involved somewhere or the other on the reaction profile of all chemical reactions. They are, therefore, a special case of molecular association and have been most widely investigated. Charge transfer complexes are of immense importance in material science and they play a significant role in drug design and bioelectrochemical processes.

Keywords: Acceptor, Biochemical, Electron, Energy, Molecules, Solvent, Transfer

Charge-transfer complexation is important phenomenon in biochemical and bioelectrochemical energy transfer processes. Charge-transfer phenomenon was introduced first by Mulliken and widely discussed by Foster to define a new type of adducts. Mulliken defines a molecular complex between two molecules as an association somewhat stronger than ordinary. Van der Waal's association of definite stoichiometry (1:1 for most cases). The partners are very often already have closed-shell (Saturated Valence) electronic structure. In loose complexes the identities of the original molecules are to a large extent preserved.

The tendency to form complexes occurs when one

partner is an electron acceptor and the other is an electron donor. We abbreviate the term donor-acceptor complex to include all such associations and use D for an electron donor and A for electron acceptor. Most studies of complexes thus far have been made in solution, in solvent that are as inert as possible. It may, therefore, be assumed that the London dispersion interactions which are important between D and A in the vapour state, are very approximately cancelled by losses of solute-solvent dispersion force attractions when complex is formed from free donor and acceptor in solution. Roughly, one donor-solvent plus one acceptor-solvent contact is replaced by one donor-acceptor and one solvent-solvent contact. The theory of donor-acceptor complexes and their spectra as presented by Mulliken is a vapour-state theory, except for the omission of the London dispersion attraction terms. This theory after small correction for solvation energies, is essentially valid for solutions in inert solvents. The few studies that have been made in vapour-state complexes are in agreement with this theory but they show some puzzling features.

The new bond formed according to Benesi and Hildebrand is in the ultra-violet region for a solution of benzene and iodine dissolved in n-heptane. Similar bonds also occur in the visible region for many other complexes.

This demonstrates that a solution of tetracyanoethylene (TCNE) in methylene dichloride may be added to a series of aromatic hydrocarbons dissolved in methylene dichloride, benzene gives a yellow solution, xylene an orange, durene a deep red and hexamethyl benzene a deep purple and a green colour was obtained on interaction of colourless solution of the TCNE acceptor and purple solution of porphyrins in dichloromethane or carbon tetrachloride describing a charge transfer complex (CTC) formation and also when tetracyanoethylene solution was added to the solution of 2,6-diaminopyridine (2,6-DAPY), strong change in colour was observed and associated with the appearance of new absorption band in region where neither donor nor acceptor have any absorption. The π -electron molecules, ethylene and


Some Possible Methods to Introduce Content-Based Instruction (CBI) for the Development of Communication Skills of Technical Students


Pratibha Mallu


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Abstract

It is customary in language classrooms to upgrade the teaching methods to make it more learner-centred. Students' attention could be drawn easily towards language learning through the content. The main objective of the present study is, to suggest possible ways to introduce content-based instruction (CBI) for the development of communication skills of technical students. The content of CBI can be teacher presentations, video sequences, guest lecture talks, relevant newspapers articles, scholarly articles, essays, informative texts, etc. Using this content, teachers can conduct student

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About The Author

Pratibha Mallu
Vidya Jyothi Institute of
Technology, Moinabad,
Hyderabad
India

Professor-English

K. Mahaveer

PRINCIPAL
MAHAVEER
INSTITUTE OF SCIENCE & TECHNOLOGY
Bandlaguda, Hyd-500 005.



Pedagogical implications on 'Personal Effectiveness' and 'Business Communications' : Concerns of Employability

M. Pratibha

Introduction

The emphasis on communication has gained prominence throughout the globe. The demand for communication skills is increasing continuously. During the recent years communication skills have gained much more importance in different academic curricula. The importance of communication has an impact on every academic curriculum. This is specifically true for business management curriculum. Business management subjects often linked with communication skills. According to Cardon and Moshiri (2014) business communication course offerings are growing on the national stage in USA. Though MBA education completes hundred years of its existence (Das, 2013) the employability rate is decreasing in India.

Cardon and Moshiri 2014 noticed, one significant change over the past 5 years (in USA) is the increased focus on interpersonal communication and teamwork. This applies to Indian conditions as well. There is a significant gap between industry requirements and students' skills, when they are out of their managerial courses. Though there is a lot of emphasis in curriculum in JNTUH regarding the communication skills, students are not completely equipped to meet the demands of industry.

There is little research-identifying students'-teachers' attitudes towards communication skills in educational colleges (Ihmeideh, 2010).

Though the syllabus has been designed after a thorough research and the practical classes have been conducted accordingly yet the rate of employment is abysmally low. It is necessary to find out where these gaps are and how can this be fulfilled.

K. Mahaveer
PRINCIPAL
MAHAVEER
INSTITUTE OF SCIENCE & TECHNOLOGY
Bandlaguda, Hyd-500 005.



ANVESHANA'S INTERNATIONAL JOURNAL OF RESEARCH IN REGIONAL STUDIES, LAW, SOCIAL SCIENCES, JOURNALISM AND MANAGEMENT PRACTICES

COST-BENEFIT ANALYSIS ON IMPLEMENTATION OF GREEN BANKING TECHNIQUES IN INDIAN BANKING INDUSTRY (w.r.t.ATMs)

Ms.B.PRAMODA HOLLY STAR
Assistant Professor, MBA Dept.
Mahaveer Institute of Science &
Technology
Email-Id:pramoda.hollystar@gmail.com

Ms. SHAIK SANA SULTANA
Assistant Professor, MBA Dept.
Mahaveer Institute of Science &
Technology
Email-Id:sanasultanashaik20@gmail.com

ABSTRACT:

This paper investigates the significance of Green Banking and soughts the Cost-Benefit Analysis of implementing Green Banking Techniques in Indian Banking Industry. Green banking is a stream of banking in which environmentalism is adopted as the operational base of banking activities. Green banking avoids as much paperwork as possible and promotes the transactions with the effective usage of modern technology. Banking, being a key Industry in the service sector has largest bank network spread over a vast area. In this competitive environment, to reach its goals banks has to evaluate their cost structure. Therefore, one of the problems emerging in the changing banking scenario is, whether the huge investments made in providing Green banking services are justifiable with the benefits or Returns earned with Green banking services. The study is proposed to be conducted with two objectives: 1) To establish the Costs and Risks of implementing Green Banking Techniques w.r.t. ATM's 2) To establish the Benefits of implementing Green Banking Techniques and provide possible recommendations for further improvement. To achieve the above stated objectives, the data for the study is proposed to be collected through secondary sources.

Keywords: Green Banking, Cost-Benefit Analysis, ATM's Indian Banking Industry, Techniques.

Introduction to the Study

During the past decade, There have been continuous endeavors across the world to measure and mitigate the risk of climate change caused by human activities. Banks are regarded as environment favorable and do not effect the environment much throughout their own internal operations, the external impression on the environment all over their customers activities.

Green Banking is not a separate bank. It implies guaranteeing environment friendly practices in banking sector and thereby decrease internal and external carbon footprints. Banking industry is generally not regarded as polluting industry. But it influence the environment in terms of expanding energy consumption (lighting, air conditioning), paper consumption. An extensive view of this is that banking industry is related to the external environment as it dispense funds to others and hence finances their undertakings. Banks are a source of funds. So they can supply to environment by ensuring environmentally accountable investment and a carefully assess lending. It therefore covers two aspects. The first one being careful use of all resources,

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EMAIL: anveshanaindia@gmail.com, WEBSITE: www.anveshanaindia.com

PRINCIPAL
MAHAVEER
INSTITUTE OF SCIENCE & TECHNOLOGY
Bandlaguda, Hyd-500 005.

Green Finance: Transition of Indian Banks towards Green India¹B Pramoda Holly Star, ²Dr. A. A. Ananth¹Research Scholar, Annamalai University

Anna Nagar, Chidambaram, Tamilnadu

²Professor, Department of Business Administration

Annamalai University, Anna Nagar, Chidambaram, Tamilnadu

Abstract

Green Finance plays a vital role in achieving inclusive, resilient and cleaner economic growth by creating environmental benefits. To build economic development in a sustainable manner India also needs a national Green Finance Strategy. The present study explores various Green Financing Initiatives taken by Indian Banks with special focus on State Bank of India. The study is descriptive in nature and is based on Secondary sources. The paper also discusses on the recent trends and future prospects in Green Finance. The study concluded that to stimulate the Growth and development of green financing, it is required to implement regulatory framework procedures, use of new tools for financing green projects, creation of a specialized banking institution.

Keywords: Green Finance, sustainability, Environment, Indian Banks**Introduction to the Study**

Green finance is concerned with investments or lending to sustainable development projects and initiatives, environmental products, and policies that encourage the development of a sustainable economy. It involves lending investment in environmentally sustainable products and projects which aim at avoiding greenhouse gas emissions, industrial pollution, waste management and overall biodiversity protection. Green Finance also includes investments in the stocks, exchange traded funds and mutual funds which aims at improving the environment.

Kibuki
PRINCIPAL
MAHAVEER
INSTITUTE OF SCIENCE & TECHNOLOGY
Bandlaguda, Hyd-500 005.



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COST-BENEFIT ANALYSIS ON IMPLEMENTATION OF GREEN BANKING TECHNIQUES IN INDIAN BANKING INDUSTRY (w.r.t.ATM s)

Ms.B.PRAMODA HOLLY STAR

Assistant Professor, MBA Dept.
Mahaveer Institute of Science &
Technology

Email-Id:pramoda.hollystar@gmail.com

Ms. SHAIK SANA SULTANA

Assistant Professor, MBA Dept.
Mahaveer Institute of Science &
Technology

Email-Id:sanasultanashaik20@gmail.com

ABSTRACT:

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EMAIL ID: anveshanaindia@gmail.com, WEBSITE: www.anveshanaindia.com

Principals
**PRINCIPAL
MAHAVEER**
INSTITUTE OF SCIENCE & TECHNOLOGY
Bandlaguda, Hyd-500 005

A study on revitalization of employment through skill development in India

J. Rajesh Goud
Research Scholar, UCCBM,
Osmania University, Hyd, India
Mail: goudrajesh2020@gmail.com

Abstract: In the wake of present global meltdown and financial recession, organizations are struggling for survival. Today's global environment also warrants development of coping skills to be able to integrate and assimilate in a highly heterogeneous working environment comprising a multi-ethnic, multi-lingual and multi-national workforce

Education and Skill building is the single most important instrument for social and economic transformation. A well-educated and skilled population adequately equipped with knowledge and skill is not only essential to support economic growth, but is also a precondition for growth to be inclusive. The strong push for skill development in India has resulted in a fast evolving landscape propelled by game-changing reforms and policy measures under the banner of skill India. India is one in need to reinforce itself with new skills and competent workforce. To address such turmoil this paper has focused on the strategic importance of multi-tasking, and multi-skilling to this hour of crisis.

Keywords: Reforms, Skills, Education, Economy, Transformation, Multi-Skilling.

INTRODUCTION:

Creating jobs is India's central challenge. Generating rapid economic growth is one critical element of the policy response, nurturing an enabling environment for investment is another, and targeted action yet another. Related to the latter, India needs to generate jobs that are formal and productive, provide bang-for-buck in terms of jobs created relative to investment, have the potential for broader social transformation, and can generate exports and growth.

Skill development and vocational training programs are conceptualized, executed and monitored by various organizations, working closely with the government of India. There are various plans and schemes that are dedicated to achieve scalable skilling with quality and higher productivity, particularly in the unorganized or informal sector which accounts for 83% of India's workforce.

Figure 1 'SKILLS' HAS WIDE RANGE OF DEFINITIONS



Source: <http://www.aspiringminds.com/sites/files/National%20Employability%20Report>

Kishu
PRINCIPAL
MAHAVEER
 INSTITUTE OF SCIENCE & TECHNOLOGY
 Bandlaguda, Hyd-500 005.



ORGANISATIONAL TRANSFORMATION: A NEW ORIENTATION THROUGH TECHNOLOGY IN DIGITAL REALM

L. RAJESH GOUD
Assistant Professor, Department of
Management Studies,
Mahaveer Institute of Science &
Technology, Hyderabad
E-mail: goudrajesh2020@gmail.com

K. S. Archana
Assistant Professor, Department
of Management Studies,
Mahaveer Institute of Science &
Technology, Hyderabad.
E-mail:
Archanaabhandaru@gmail.com

ABSTRACT

'Organisational Transformation is a natural progression'. The companies who will not manage this transition will provide room for new, more employee and customer oriented players.'

A process of fundamental and radical change in an organizational sense that orientates an organization in a new direction and brings it to a completely different level of effectiveness. Transformation implies a radical change in character and little to no similarity to the previous configuration or structure, unlike 'incremental' which implies gradual improvement on the same plane(s).

According to Henry et al., 2002, during implementation of change and transformations, a new management style occurs and largely impacts and influences the power dynamics in the organization. Studies have shown that organizational change in management and leaders may result to power conflicts since employees may not support appointments or new leadership. Power dynamics issue are impacted in change and transformations in products, services and even management, in a way that new leaders may not be capable of handling employees with cultural differences. Shifting in power- dynamics may bring conflicts to the industries and organisation as it may affect the entire implementation of the organisational change approach.

This paper addresses organizational transformation through technology as a key competitive advantage in today's competitive business environment focusing in different organization functionalities. In view with Leaders Managers must acquire the new technological skills and competencies that will result in their emerging new role.

Keywords: Efficiency, Competitive, Transformation, Roles, Dynamics, leadership, recruiting, performance

OBJECTIVES OF THE STUDY

1. To find out if technology can positively deliver transformational activities for organizational competence and success in an organization.
2. To evaluate how technology be able to help the organizational functions and become as strategic partner.

INTRODUCTION

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EMAIL ID: anveshanaindia@gmail.com, WEBSITE: www.anveshanaindia.com


MAHAVEER
INSTITUTE OF SCIENCE & TECHNOLOGY
Banjara Hills, Hyderabad 500 005.

Applying EI Skills to Managers for managing the occupational stress at work place for Decision-making

(An Empirical frame work on Private engg.industry at Jeedimetla Industrial Area Hyderabad.)

Raghunath Reddy.Challa
(Research scholar) NIMS University, Jaipur
Email: raghunath988@gmail.com

Dr.Akhil Goyal
(Research Guide) NIMS University, Jaipur
Email: hr_akg@yahoo.com

ABSTRACT:

As a measure of identifying the potentiality of an effective manager, the popular tool is EI-Skills test. It is a tool for developing effective Manager. Today, in every aspect of progress, managers are facing new challenges in many areas, and progress creates new problems. Over a century, the nature of the work has become widespread, and these changes are also in progress. The aim of present paper is to explore the managers with EI Skill and to evaluate the tendency of emotional control at work place, as a managerial level in Private engg.industry at Jeedimetla Industrial Area Hyderabad.

My Attempt involves in self-awareness & Social awareness (i.e. the ability to understand one's emotions), self- management & Relationship management (the ability to keep unconstructive emotions under control in self and others), and self- motivation (developing skills to attain target and taking initiative to act on opportunity). It helps a middle level manager to develop communicating skills, to build an adjustable mentality with other employees , improve the leadership skills for building a good team, and manage the conflicts between employees . Not only do most of us spend the largest portion of our day at work but our identity, self esteem and well being are strongly affected by work experiences only. The sample is composed by 250 Employees and Random sampling technique is used to answer the instrument of the study. SPSS software was used to analyze the data collected based on descriptive statistics (mean, standard deviation, and percentage. The result indicates that the relationship between legendary manager style and Emotional Intelligence is positive and significant. An observation is provided to assist managers in the improvement of emotional intelligence skill, as well as the application of emotional intelligence skills to decisions and decision-making processes.

Key words: Emotional Intelligence, self-awareness, Social awareness, Self-management, Relationship management, Self-esteem, legendary manager, Decision-making.

Introduction:

Stress Management at Workplace

With knowing that stress is widespread in organizations and potentially is harmful, the organizations and persons should pay special attention to manage stress effectively. There is variety of personal and organizational strategies to manage the stress (Moorhead and Griffin, 1995, p.266).

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**TO CREATE MORE ACCOMPLISHMENT IN MANAGING EMOTIONAL
INTELLIGENCE AND ITS RELATIONSHIP WITH LEADERSHIP SKILL
PRACTICES**

Paper ID - MBA042

G.KISHORE KUMAR

Asst. Professor, MBA Department
Mahaveer Institute of Science and
Technology
kshre.kmr@gmail.com

RAGHUNATH REDDY.CHALLA

Asst. Professor, MBA Department
Mahaveer Institute of Science and
Technology
raghunath988@gmail.com

ABSTRACT

In recent years leadership and emotional intelligence have become hot topic in management and organization researches. We made an attempt to study the relationship between emotional intelligence and leadership. Emotional intelligence is the ability to perceive and express emotion to stimulate thought, understand and reason. It also regulates emotion in oneself and others. Leadership refers to the ability to influence, motivate and enable others to contribute to the effectiveness and success of the organizations of which they are members. Emotional Intelligence is very most important for managerial role in the success and competency at organization. Emotional Intelligence is a capacity to monitor one's own and other's emotions to differentiate among them and to use this information to point one's judgment and actions. It involves self-awareness (i.e. the ability to understand one's emotions), self- management (the ability to keep unconstructive emotions under control), and self- motivation (developing skills to attain target and taking initiative to act on opportunity). This paper made an attempt It helps a middle level manager to develop communicating skills, to build an adjustable mentality with other employees , improve the leadership skills for building a good team, and manage the conflicts between employees . In the workplace, this ability can significantly improve interpersonal communication and human skills. It is therefore important to understand what emotional intelligence is, how it can be used in the workplace to increase productivity and fulfillment, and how this individual's power can turn his life around. Therefore, it is necessary to create more achievement in managing skills through Emotional Intelligence skill training.

Keywords: Emotional intelligence, Leadership practices, Executives and Public sector organization


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MAHAVEER
INSTITUTE OF SCIENCE & TECHNOLOGY
Bandlaguda, Hyd-500 095.

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Empowering The Managers By Extending The Capabilities To Manage The Occupational Stress Through Leadership Practices

Dr. Akhil Goyal¹ and Raghunath Reddy Challa²

Research Guide¹ and Research Scholar², NIMS University Rajasthan, Jaipur

ABSTRACT

Many studies investigate ways in which leadership practices can improve people's lives by considering aspects of how it is used, applied in different communities and countries, and how it influences certain key economic indicators such as growth. The manufacturing sector embraced the use of leadership practices to serve its customers faster. Leadership refers to the ability to influence, motivate and enable others to contribute to the effectiveness and success of the organizations of which they are members. Leadership practices play a very important and crucial role in the manufacturing sector. Stress causes an employee to deviate from his normal performance. Occupational stress is a psychological feeling that causes employees to deviate from their normal functioning today. The manufacturing industry is stronger and able to withstand the pressure of competition. Internationally accepted prudential standards have been adopted, with higher disclosure and transparency, the Indian manufacturing industry is gradually evolving towards the application of best accounting, corporate governance and risk management practices. This article focuses on the relationship between work stress and leadership to strengthen the middle-level manager by expanding the capabilities to manage the work stress of individual managers. The paper proposed measures for managers to manage work stress at the workplace by using leadership practices in industries. The mental workload is considered to be a consequence of highly computerized system use and has been discussed in the light of various automated complex task scenarios

Keywords: Employee, Job Stress, occupational stress, Leadership practices, manufacturing industry, manager, mental workload, Empowerment.

INTRODUCTION

We currently live in an information society, encapsulated with various modern advanced technologies, both at work and at home. Technology is spreading vertically and horizontally across different organizations, including those with limited resources to adapt to. "STRESS" has become so well-known that it is HRD experts, management fields and yoga experts who put a lot of emphasis on defining stress and managing stress. Indeed, stress is woven into the fabric of life today. No one in this universe is free from any amount of stress. Everything that makes us tense, angry or frustrated is actually stress. Stress is common in all walks of life and in all age groups, although the intensity, extent and visual symptoms vary from person to person. However, a certain amount of stress is a desirable individual; to provide the necessary stimulation to overcome obstacles that can prevent a person from achieving their ultimate goal. Sometimes we invite mild stress to prevent monotony and to develop some motivation for a certain activity. DR. G. Wilkinson defined stress in his paper in the British Medical Association Publication by the following equation:

Levels of stress = Environmental stressor + stress Response + Significance of Event

Stress is "wear and tear" that our body experiences when we adapt to our constantly changing environment. Stress has a physical and emotional effect on us, and it can cause positive or negative feelings. Stress comes from any situation or circumstance that requires behavioral adjustment. Every change, good or bad, is stressful, and whether it is a positive or negative change, the physiological response is the same. Stress can disrupt both an individual and an accident. It can lead to poor work performance, excessive use of alcohol or other drugs, poor presence or even general poor health. Levi (1996), Symptom of stress causes individuals, significant suffering, has a significant effect on absenteeism and productivity levels within the organizations. Effective labor management relationships must be the place to reach consensus and solve problems. This is a certain degree of stress prevention that can arise from conflicts (GAO, 2001).

Perceived Stress Among Post Graduate Students And Its Association With Academic Performance

¹Raghunath Reddy Challa; ²Dr. Akhil Goyal; ³Dr. G. Taviti Naidu

¹Raghunath Reddy Challa, Research scholar, Dept. of Management, NIMS University, Jaipur, E-mail: raghunath988@gmail.com

²Dr. Akhil Goyal, Associate Professor, Dept. of Management, NIMS University, Jaipur, E-mail: hr_akg@yahoo.com

³Dr. G. Taviti Naidu, Post Doctoral Fellow in Management, ICSSR, E-mail: dr.tavitinaidugongada@gmail.com

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Abstract: College days are said to be the most cherished and golden days in a person's life. It is in college that a student enjoys the vibrant college environment, the circle of friends, numerous academic and other extra-curricular activities, which enhance their skills and also boost up their confidence. This attribute is slowly dying away with the invasion of stress in the life of a student.

The increase in stress levels has dire consequences. These days, college students are exposed to chronic stress and can suffer from several long-term side effects, like developing insulin-dependent diabetes. Apart from this, a matter of grave concern is the rise in suicide rates amongst college-going students. As described by American College Health Association, statistics published in *Psychology Today* show that the suicide rates in students have increased to threefold when compared to what it was in 1950. Therefore, in this study the researcher has tried to know the factors which influence the performance of the students. The research has collected the primary data with a sample of 160, who are the post graduate students of arts and science from Hyderabad. The sample has taken with convenience sampling.

Key words: Stress, student performance,

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1. Introduction

Childhood stress is increasing in both its frequency and severity. Some factors that may contribute to this stress include the pressure on children to mature emotionally and psychologically at an increasingly earlier age, a decrease in the number of caring parents, and a subsequent reduction in parent's love and support. As a child grows and reaches puberty a psychological metamorphosis takes place and this is the adolescence stage. It is the developmental period during which a growing person makes a transition from childhood to adulthood.

1.1 Review of Literature:

Stress, according to Pestonjee (1992)¹, occurs when an individual's transition abilities are exhausted. He believes that, while stress is commonly thought to be harmful to one's wellbeing and success, new evidence has shown that a low level of stress is necessary for successful functioning. It is the individual's response to stress that makes all the difference and can be dangerous. According to him, interest in the subject is growing, and he refers to the twenty-first century as the "age of fear and tension."

Many students find college to be a rewarding experience, but due to course standards such as assessments, reports, and presentations, many students find college to be chronically exhausting (Murphy & Archer, 1996)².

Irvine (2002)³ lists a variety of stressors that children face, ranging from parental divorce and alienation to academic and social loss. Stressful interactions are often thought to be rising in severity during the teenage years, when teenagers encounter influential stressors such as family dysfunction, social pressure, and academic problems.

Dixon, Wayne, Heppner, Paul, Anderson, and Wayne (1993)⁴ researched 154 students and results showed a significant interaction between stress and hopelessness. Hopelessness was strongly related to depression scores under the high level of stress.

Leung (2007)⁵ looked at the moderating and mediating processes by which parental support and children's resourcefulness can affect stress outcomes. As opposed to the global academic hassles metric, domain analysis was found to be more vulnerable to gender differences. Boys were more affected by "expectations and pressures from significant ones" and "academic demands and overload," while girls were more affected by "academic inefficacy and fear of failure."



ORGANISATIONAL TRANSFORMATION: A NEW ORIENTATION THROUGH TECHNOLOGY IN DIGITAL REALM

L. RAJESH GOUD

Assistant Professor, Department of
Management Studies,
Mahaveer Institute of Science &
Technology, Hyderabad
E-mail: goudrajesh2020@gmail.com

K. S. Archana

Assistant Professor, Department
of Management Studies,
Mahaveer Institute of Science &
Technology, Hyderabad
E-mail:
Archanaabharudu@gmail.com

ABSTRACT

"Organisational Transformation is a natural progression. The companies who will not manage this transition will provide room for new, more employee and customer oriented players"

A process of fundamental and radical change in an organizational sense that orientates an organization in a new direction and brings it to a completely different level of effectiveness. Transformation implies a radical change in character and little to no similarity to the previous configuration or structure, unlike 'turnaround' which implies gradual improvement on the same plane).

According to Henry et al., 2002, during implementation of change and transformations, a new management style occurs and largely impacts and influences the power dynamics in the organisation. Studies have shown that organisational change in management and leaders may result in power conflicts since employees may not support appointments or new leadership. Power dynamics issue are impacted in change and transformations in products, services and even management, in a way that new leaders may not be capable of handling employees with cultural differences. Shifting in power- dynamics may bring conflicts to the industries and organisation as it may affect the entire implementation of the organisational change approach.

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Keywords: Efficiency, Competitive, Transformation, Roles, Dynamics, leadership, recruiting, performance

OBJECTIVES OF THE STUDY

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EMAIL ID: anveshanaindia@gmail.com, WEBSITE: www.anveshanaindia.com

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MAHAVEER
INSTITUTE OF SCIENCE & TECHNOLOGY
Bandlaguda, Hyd-500 005.

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A STUDY OF RECENT TRENDS IN WOMEN ENTREPRENEURSHIP

Paper ID - MBA044

Dr. KIRAN KUMAR KOTHA,
Professor & FiOD, Department of Management Studies
Mahaveer Institute of Science & Technology
dr.kirankumarkotha@gmail.com

ABSTRACT

The limit and ability to create compose and deal with a business wander alongside any of its dangers so as to make a benefit. The most reasonable case of enterprise is the beginning of new organizations. In financial aspects, enterprise joined with arrive, work, regular assets and capital can deliver benefit. Entrepreneurial soul is described by advancement and hazard taking, and is a basic piece of a country's capacity to prevail in a consistently changing and progressively focused worldwide commercial center. A few changes will come to fruition in this year and youthful business visionaries should remember the forthcoming patterns when they are beginning their business. Keep ahead with the most recent advances: It is critical that business people keep themselves mindful of the up and coming advances in the market. It would be a smart thought to tech counsels for giving your business avant-garde IT related data. Find capable workers: A business person won't have the capacity to pay a compensation as large as the effectively settled organizations. It is best for begin to search for representatives with aptitudes that can be created.

Development prompts the flow that administers the connection between science, industry, and society. Imaginative association needs should need to get ready for restoring the offerings and its conveyance procedure to its partners to make due in the present globalized world. In the present paper, idea of development and enterprise has been examined by the creators. The paper will likewise incorporate cases of inventive business visionaries and how the advancement in items/administrations enables the business in survival and development in display globalized to commercial center.


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MAHAVEER
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JALGAON, GUJARAT, INDIA

**INTERNATIONAL CONFERENCE ON RECENT CHALLENGES IN
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**TO CREATE MORE ACCOMPLISHMENT IN MANAGING EMOTIONAL
INTELLIGENCE AND ITS RELATIONSHIP WITH LEADERSHIP SKILL
PRACTICES**

Paper ID - MBA042

G.KISHORE KUMAR

Asst. Professor, MBA Department
Mahaveer Institute of Science and
Technology
kshre.kmr@gmail.com

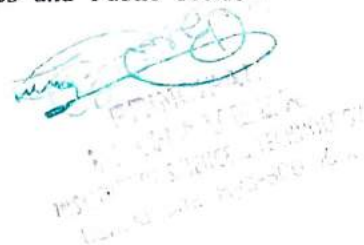
RAGHUNATH REDDY.CHALLA

Asst. Professor, MBA Department
Mahaveer Institute of Science and
Technology
raghunath988@gmail.com

ABSTRACT

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Keywords: Emotional intelligence, Leadership practices, Executives and Public sector organization



RAGHUNATH REDDY CHALLA
Asst. Professor, MBA Department
Mahaveer Institute of Science and
Technology
raghunath988@gmail.com

ANALYSIS OF DEPOSIT MOBILISATION

M.Venkata Subba Reddy, Research Scholar, JNTU Anantapur, Dept. of Management science

Dr.J.Suresh Reddy, Assistant Professor, Dept. of Management Studies, Mahatma Gandhi University, Nalgonda, Telangana.

Dr.T.Narayana Reddy, Associate Professor, Dept. of Humanities & Science, JNTU Anantapur .

INTRODUCTION :

An off shoot of National Movement, Andhra Bank has a long and rich patriotic background. Its founder, Dr.Bhogaraju Pattabhi Sitaramayya was an ardent freedom fighter, a great intellectual and multi -faceted genius. As a veteran Gandhian, he was committed to the rejuvenation of Indias villages. He realised that political freedom – if not combined with economic prosperity would mean nothing to the toiling millions of India. He, therefore, conceived the idea of establishing a bank to give credit support to the farming and trading communities as well as to artisans and craftsmen in rural Andhra. Thus, Andhra Bank came into existence. It was registered on November 20, 1923 and commenced business on November 28, with a paid up capital of Just 1.00 lakh rupees and an authorised capital of Rs.10.00 lakhs in an old building in a residential locality at Machilipatnam – a port town in coastal Andhra. The Andhra Bank was started first with 16 members of Board of Directors drawn from different walks of life. One of the members of the Board of Directors, Dr. Pattabhi was elected Managing Director of Bank. Every one of them was a prominent person standing in his own profession or vocation. The Bank passed through its gestation period and within a short span of time, started growing by leaps and bounds. From the beginning, the Bank's main objective was to mobilise the surplus from the agriculture and savings from the house holds and deploy them fruitfully for rural uplift and promotion of Industries.

Kanthy
PRINCIPAL
MAHAVEER
INSTITUTE OF SCIENCE & TECHNOLOGY
Bandlaguda, Hyd-500 005.

A STUDY ON DEPOSIT MOBILISATION STRATEGY OF ANDHRA BANK

M.Venkata Subba Reddy, Research Scholar, JNTU Anantapur Dept. of Management science

Dr.J.Suresh Reddy, Assistant Professor, Dept. of Management Studies, Mahatma Gandhi University, Nalgonda, Telangana.

Dr.T.Narayana Reddy, Assistant Professor, Dept. of Humanities & Science, JNTU Anantapur

ABSTRACT

Finance is the key element for the development of any country. Finance is a scarce resource, which is not available freely and without which economic development is not possible. The economic development of a country to a large extent depends upon its financial system. Financial system facilitates the speedy economic growth of the country. The term financial system includes the mechanism of savings and the process of transfer of those savings for investment. A sound and efficient financial system can contribute to economic growth and development in a number of ways.

“The objectives of the financial system are to supply funds to various sectors and activities of the economy in ways that promote the fullest possible utilisation of resources without the destabilizing consequence of price level changes or unnecessary interference by individual desires”.

The major segment of financial system in India is commercial Banks. The commercial Banks provides the financial assistance to all sectors in India . The commercial Banks provides long term, medium term and short term loans to all sectors. The commercial Banks financial assistance is mainly depending on its deposit mobilization. When a Bank mobilise large deposits, then only give huge loans. Hence, it is necessary to study the deposit mobilization of commercial Banks. Accordingly, an attempt is made here to study the deposit mobilization of Andhra Bank in India. The study will highlight the deposit mobilization strategy of Andhra bank in India and the suggestions of this study will be helpful to the management of Andhra Bank to take necessary steps to increase their deposits.

INTRODUCTION :

An off shoot of National Movement, Andhra Bank has a long and rich patriotic background. Its founder, Dr.Bhogaraju Pattabhi Sitaramayya was an ardent freedom fighter, a great intellectual and multi -faced genius. As a veteran Gandhian, he was committed to the rejuvenation of Indias villages. He realised that political freedom – if not combined with economic prosperity would mean nothing to the toiling millions of India. He, therefore, conceived the idea of establishing a bank to give credit support to the farming and trading communities as well as to artisans and craftsmen in rural Andhra. Thus, Andhra Bank came into existence. It was registered on November 20, 1923 and commenced business on November 28, with a paid up capital of Just 1.00 lakh rupees and an authorised capital of Rs.10.00 lakhs in an old building in a residential locality at Machilipatnam – a port town in coastal Andhra. The Andhra Bank was started first with 16 members of Board of Directors drawn from different walks of life. One of the members of the Board of Directors, Dr. Pattabhi was

CALCULATION OF EFFICIENCY AND VARIABILITY OF DEPOSITS

M.Venkata Subba Reddy, Research Scholar, JNTU Anantapur, Dept. of Management science
Dr.J.Suresh Reddy, Assistant Professor, Dept. of Management Studies, Mahatma Gandhi
University, Nalgonda, Telangana.

Dr.T.Narayana Reddy, Associate Professor, Dept. of Humanities & Science, JNTU
Anantapur.

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ANALYSIS OF DEPOSIT MOBILISATION OF ANDHRA BANK DURING THE SEVEN YEARS FROM 1-4-2011 TO 31-3-2018.

To use statistical tool C.V and to find the efficient and stable Deposit mobilisation of Andhra Bank

USE OF CO - EFFICIENT OF VARIATION

- 1) To find Variability in Deposits
- 2) To find stability of Deposits
- 3) To find efficiency of Deposits

FORMULA OF CO – EFFICIENT OF VARIATION

Handwritten signature
Dr. J. Suresh Reddy
Assistant Professor
Dept. of Management Studies
Mahatma Gandhi University
Nalgonda, Telangana

IMPLEMENTATION OF SVPWM TECHNIQUE TO VOLTAGE AND CURRENT SOURCE INVERTER

Dr. M.Rajendar Reddy

Professor & Head, Dept. of EEE,
Mahaveer Institute of Science &
Technology, Hyderabad, India.
Rajendar1956@gmail.com

G.Premkumar Reddy

Associate Professor, Dept. of EEE,
Mahaveer Institute of Science &
Technology, Hyderabad, India.
Gpkreddy2009@gmail.com

Abstract—The importance of this paper is implementation and control of the converters using space vector pulse width modulation (SVPWM) technique to VSI and CSI converters. The SVPWM pulses are given to converter and analyze the THD at different switching frequencies and comparing them on modulation index. This paper focuses on step-by-step development of SVPWM model and comparing them on various parameters. The three phase VSI and CSI models are discussed based on space vector theory. The simulation results are obtained for effectiveness of study

Keywords—VSI, CSI, SVPWM, THD, Modulation Index.

1. INTRODUCTION

Converters can be classified as rectifiers (AC-to-DC converter), inverters (DC-to- AC converter), choppers (DC- to-DC converter), AC power controller (at same frequency), and cyclo-converter (direct frequency changer).

Research has been going on different modulation strategies to modulate these converters for an efficient use. Many techniques have been proposed in order to have a minimum amount of switching in the converter and also to synthesize output voltages and output currents with very high gains. The SVPWM is considered as an enhanced technique for PWM implementation because it is having some of the advantages over SPWM in terms of good utilization of DC bus voltage, reduced switching frequency and low current ripple. SVPWM provides the succeeding advantages:

i) Better fundamental output voltage

ii) Better Harmonic performance and THD

iii) Easier hardware implementation in digital signal processor [1], [6].

In this paper, SVPWM scheme is proposed for three- phase inverters. This modulation scheme is very useful in the modulation of VSI and CSI. This paper focuses on step-by-step development SVPWM Model, applying it to VSI and CSI and comparing them on various parameters i.e., for different switching frequency, different load parameters and same modulation index. The model of a three-phase VSI and CSI are discussed based on space vector (SV) theory [8], [9].

BLOCK DIAGRAM

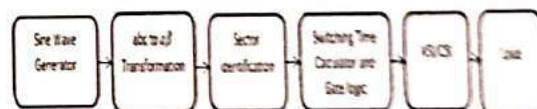


Fig.1 Block diagram of the proposed system

The overall block diagram for the proposed system is shown in Fig.1. The Principle of SVPWM

- Treats the sinusoidal voltage as a constant amplitude vector rotating at constant frequency.
- The PWM technique approximates the reference voltage V_s by a combination of 8 switching pattern.

Steps followed in realization of SVPWM is as under

- Determining V_a , V_b , V_{ref} and reference angle ' θ '.

SIMULATION AND DESIGN OF COMPACT INTEGRATED CONVERTERS MOTOR DRIVES FOR ELECTRIC VEHICLE, HYBRID ELECTRIC VEHICLE APPLICATIONS

MOHAMMED MASOOD,
Asst. Professor in EEE Dept.
Mahaveer Institute of science and Technology
mohammedmasood.eps@gmail.com

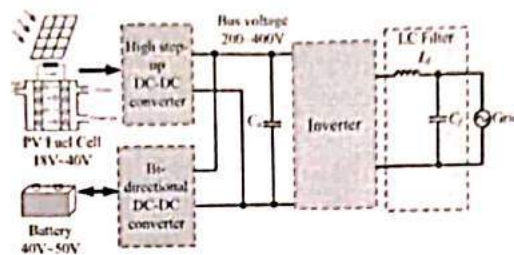
Abstract

The recent emergence of plug-in electric vehicles in a global market can offer big challenges and opportunities for both basic and applied research. Although the electrical architecture of a Electric Vehicle (EV) or an Hybrid Electric Vehicle (HEV) can be considered standardized, the development of its different building blocks is an open problem whose solution could contribute to improve significantly the global performance of the vehicle.

Keywords: DC-DC converter, HEV, Boost converter.

I. INTRODUCTION

A DC-DC converter with a high step-up voltage gain is used for many applications, such as high-intensity discharge lamp ballasts for automobile headlamps, fuel cell energy conversion systems, solar-cell energy conversion systems and battery backup systems for uninterruptible power supplies. Theoretically, a dc-dc boost converter can achieve a high step-up voltage gain with an extremely high duty ratio. However, in practice, the step-up voltage gain is limited due to the effect of power switches, rectifier diodes and the equivalent series resistance (ESR) of inductors and capacitors.



A high step-up dc-dc converter is shown in Fig.1.1 with an integrated coupled inductor and a common mode electromagnetic interference reduction filter. Here a Sepic -flyback converter with a coupled inductor and an output voltage stacking is developed. A high step-up converter, which utilizes a coupled inductor and a voltage doubler technique on the output voltage stacking to achieve a high step-up voltage gain, is introduced. A high step-up boost converter that uses multiple coupled inductors for the output voltage stacking is proposed

II. HYBRID ELECTRIC VEHICLE

Hybrid Electric Vehicle (HEV) is an emerging technology in the modern world because of the fact that it mitigates environmental pollutions and at the same time increases fuel efficiency of the vehicles. Multilevel inverter controls electric drive of HEV of high power and enhances its performance which is the reflection of the fact that it can generate sinusoidal voltages with only fundamental switching frequency and have almost no

IMPROVED UPQC WITH STATCOM FOR GRID VOLTAGE REGULATION BY USING FUZZY LOGIC CONTROLLER

Dr.M.SUDHAKARAN

Asst .Prof, Dept of EEE, Mahaveer
 Institute of Science & Technology
 likesudhakaran@gmail.com

M.RAJESH SAGAR

Asst. Prof, Dept of EEE, Mahaveer
 Institute of Science & Technology
 Sagarmamidi01@gmail.com

Abstract:

This paper presents an improved controller for the dual topology of the unified power quality conditioner (iUPQC) extending its applicability in power-quality compensation, as well as in microgrid applications. The iUPQC will work as a static synchronous compensator (STATCOM) at the grid side, while providing also the conventional UPQC compensations at the load or microgrid side. Beyond the conventional UPQC power quality features, including voltage sag/swell compensation, the iUPQC will also provide reactive power support to regulate not only the load-bus voltage but also the voltage at the grid-side bus by using this controller. Simulation results are provided to verify the new functionality of the equipment.

Index Terms—iUPQC, power quality, static synchronous compensator (STATCOM), unified power quality conditioner (UPQC).

1. Introduction

In contrast, power-electronics-driven loads generally require ideal sinusoidal supply voltage in order to function properly, whereas they are the most responsible ones for abnormal harmonic currents level in the distribution system. In this scenario, devices that can mitigate these drawbacks have been developed over the years. Certainly, power-electronics devices have brought about great technological improvements. However, the increasing number of power-electronics-driven loads used generally in the industry has brought about uncommon powerquality problems. Some of the solutions involve a flexible compensator, known as the unified power quality conditioner (UPQC) and the static synchronous compensator (STATCOM)

Power circuit of a UPQC consists of the combination of a shunt active filter and a series active filter connected in a back-to-back configuration. This combination

allows the simultaneous compensation of the load current and the supply voltage, so that the compensated current drawn from the grid and the compensated supply voltage delivered to the load are kept balanced and sinusoidal. The fuzzy logic and dual topology of the UPQC, i.e., the iUPQC (improved unified power quality conditioner), where the shunt active filter behaves as an ac-voltage source and the series one as an ac-current source, both at the fundamental frequency. This is a key point to better design the control gains, as well as to optimize the LCL filter of the power converters, which allows improving significantly the overall performance of the compensator.

2. Improved UPQC Configuration

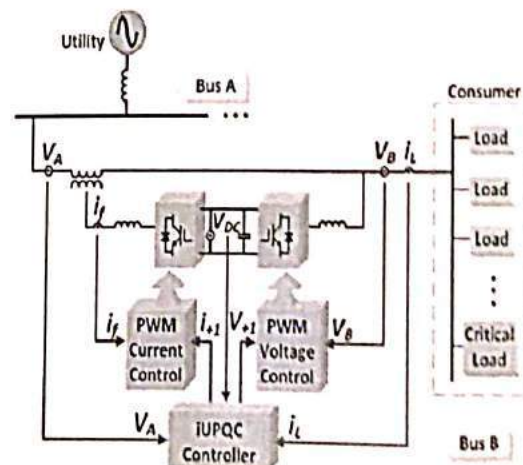


Figure (1): Improved UPQC configuration.

Figure (1) depicts in details about the connections and measurements of the iUPQC between bus A and bus B. Using fuzzy the series converter of a conventional iUPQC uses only an active-power control variable p , in order to



FLEXIBLE CONTROL SCHEME FOR A DYNAMIC VOLTAGE RESTORER FOR POWER-QUALITY IMPROVEMENT

B. Sathish,

Asst.Professor,

Department of EEE.

Mahaveer Institute of science & technology
bsgoud789@gmail.com

N. Saraswathi,

Asst.Professor

Department of EEE.

Mahaveer Institute of science & technology
30.saraswathi@gmail.com

Abstract

This paper presents the control framework dependent on the supposed tedious control for a five-level flying-capacitor dynamic voltage restorer (DVR). This DVR staggered geography is appropriate for medium-voltage applications and worked by the control conspire created in this paper. It can moderate force quality unsettling influences, for example, voltage lists, symphonious voltages, and voltage lopsided characteristics all the while inside a transfer speed. The control structure has been partitioned into three subsystems; the first improves the transient reaction of the channel used to wipe out the balance high-recurrence music, the subsequent one arrangements with the heap voltage; and the third is accused of keeping up adjusted voltages in the flying capacitors. The all around created graphical offices accessible in PSCAD/EMTDC are utilized to do all demonstrating parts of the dreary regulator and test framework. Reproduction results show that the control approach performs adequately and yields astounding voltage guideline.

Keywords— power quality, DVR, UPQC, voltage sags, overvoltage, harmonics voltage compensation, FACTS.

I. Introduction

Power quality (PQ) has become an important issue over the past two decades due to the relentless integration of sensitive loads in electrical power systems, the disturbances introduced by nonlinear loads, and the rapid growth of renewable energy sources. Arguably, the most common PQ disturbance in a power system is voltage sags, but other disturbances, such as

harmonic voltages and voltage imbalances[2], may also affect end user and utility equipment leading to production downtime and, in some cases, equipment terminal damage.

The dynamic voltage restorer (DVR) is one of the most efficient and economic devices to compensate voltage sags. The DVR is basically a voltage-source converter in series with the ac grid via an converters are normally used and, therefore, much of the published interfacing transformer, conceived to mitigate voltage sags and swells. For low-voltage applications, DVRs based on two-level literature on DVRs deals with this kind of converter. Nevertheless, for higher power applications, power-electronic devices are usually connected to the medium-voltage (MV) grid and the use of two-level voltage converters becomes difficult to justify owing to the high voltages that the switches must block.

One solution is to use multilevel voltage-source converters which allow high power-handling capability with lower harmonic distortion and lower switching power losses than the two level Converter. Among the different topologies of multilevel converters, the most popular are: neutral-point-clamped converters(NPC),flying-capacitor converters (FC), and cascaded-multimodular or H-bridge converters. NPC converters require

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Dr. M. Rajendar Reddy, Professor

From

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M. Rajendar Reddy
PROFESSOR
MAHAVEER INSTITUTE OF SCIENCE & TECHNOLOGY
Rangareddy, Hyd-500 005.



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AC-DC CONVERTER BASED HARMONIC MITIGATOR FOR VECTOR CONTROLLED INDUCTION MOTOR DRIVES

Dr.M.SUDHAKARAN

Asst .Prof, Dept of EEE, Mahaveer
Institute of Science & Technology
likesudhakaran@gmail.com

G.JYOTHI

Asst .Prof, Dept of EEE, Mahaveer
Institute of Science & Technology
Garikapatijyothi010@gmail.com

Abstract:

This paper deals with Autotransformer based multipulse AC-DC converter with reduced magnetic feeding vector controlled industrial motor drives. This helps to improve the power quality at the point of common coupling. The proposed methods are 12-pulse and 18 pulse ac-dc converter based harmonic mitigator are implemented to eliminate 5th, 7th, 11th, 13th and 17th harmonics currents along with passive shunt filter to improve the power quality at AC Mains. The power quality parameters such as distortion factor, ripple factor and total harmonic distortion are also calculated for the proposed method. The results are carried out by MATLAB/Simulink software.

1. INTRODUCTION

Induction motors have been regarded as a universally accepted choice in industrial applications due to their advantages such as improved efficiency, ruggedness, energy savings, and low cost. For variable speed drives, dc motors have been used because of their flexible characteristics i.e. armature and field currents decoupled from each other. To incorporate the flexible characteristics of a dc motor into an induction motor, vector control technique has been adopted, and this has been widely accepted in industry. The advances in power semiconductor devices have led to the increased use of solid-state converters in various applications such as air conditioning, refrigeration, pumps, etc. employing variable frequency induction motor drives. These variable frequency drives generally use the three-phase squirrel cage induction motor as the prime mover due to its advantages like rugged, reliable, maintenance free, etc. These induction motor drives are mostly operated in a vector control mode due to its capability of

giving a performance similar to that of a DC motor. These drives are fed by a six-pulse diode bridge rectifier, which results in injection of harmonics in the supply current, thus deteriorating the power quality at the point of common coupling (PCC), thereby affecting the nearby consumers. Harmonics can be reduced using different active or passive wave shaping techniques. The active wave shaping techniques result in an increased loss, complex control and higher overall cost. The passive wave shaping techniques use passive filters consisting of tuned L-C circuits. However, they require careful application and may produce unwanted side effects, particularly in the presence of power factor (PF) correction capacitors. The most rugged, reliable and cost effective solution to mitigate these harmonics is to use multi pulse methods. These multipulse converters have gained importance because of their robustness, efficiency, and simplicity in control. Many researchers have used different configurations based on 12- and 18-pulse rectifications. These methods use two or more converters, where the harmonics generated by one converter are cancelled by another converter, by proper phase shift. In multipulse converters, the autotransformer-based configurations provide the reduction in magnetics rating as the transformer magnetic coupling transfers only a small portion of the total kVA of the induction motor drive. To ensure equal power sharing between the diode bridges, and to achieve good harmonic cancellation, it requires the need of interphase transformers. With the use of a higher number of multiple converters, the power quality indices are improved.

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G. Premkumar Reddy, Associate Professor

From

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Handwritten signature and stamp:
G. Premkumar Reddy
Associate Professor
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Sathish Bakanagari, Assistant Professor

From

Mahaveer Institute of Science and Technology, Bandlaguda, Hyderabad

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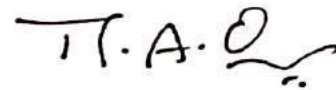
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TASKEEN AYESHA, Assistant Professor

From

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M. Masood
M. MASOOD
INSTITUTE OF SCIENCE & TECHNOLOGY
Bardoloi, Hyd 786 005.



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DG integration to distribution system with active power injection control

P. V. V. Satyanarayana, P. V. Ramana Rao
Department of Electrical and Electronics Engineering, Acharya Nagarjuna University, Guntur, India

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ABSTRACT

Conventional methodology for electrical power generation is limited to environmental limitations and the availability of fossil fuels for power generation, offering various benefits to the market participants in the modern electrical power system in modern era. This paper presents the distributed generation integration to grid with active power injection control. Distributed generation source delivers DC power which is processed through square wave inverter. Inverter circuit is controlled using a simple control technique to match grid code. Fixing the current reference and varying the same analysis is carried out for grid integration scheme of distributed generation injecting active power to grid. Simulation work is carried out and results are shown using MATLAB SIMULINK software.

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Corresponding Author:

P. V. V. Satyanarayana,
Research Scholar, Department of Electrical and Electronics Engineering,
Acharya Nagarjuna University, Guntur, AP, India.
Email: pvsatyanarayana.eee@gmail.com

1. INTRODUCTION

Majority of the electrical energy worldwide is generated bulk (about 1MW to 1000MW) power plants and is delivered to consumers through electrical transmission and distribution systems. This type of power system is generally termed 'centralized power system'. This electrical energy is generated from combustion fuels (like coal, natural gas or oil) or nuclear fuels [1]. The main constraints with the usage of conventional fuels are pollution and availability [2-3]. Conventional fuels are at exhaust point nowadays and cost more. Conventional power plants are a constraint these days as the world countries are focusing on issues regarding global warming. Distributed generation is a viable option to reduce pollution and also to address many technical issues regarding conventional power generation. Distributed generation is the generation at load side, reducing the transmission losses considerably [4-8]. Generation of electrical energy from the source which are renewable in nature are called renewable energy sources like solar, wind etc. Distributed generation has penetrated in many of the European countries in the last few years. Power generation near or at the load points or at the point of use is termed as 'Distributed generation' [9-16]. Many renewable sources like photo-voltaic system, small wind turbines are capable of generating electrical energy at distribution point [17-20]. Climatic change guidelines, advancements in technology, and increase in prospects of customers led to increased usage of DGs. Figure 1 shows the scope of renewable sources. This paper presents the distributed generation integration to grid [21-26] with active power injection control. Distributed generation source delivers DC power which is processed through square wave inverter [27]. Inverter circuit is controlled using a simple control technique to match grid code. Fixing the current reference and varying the same analysis is carried out for grid integration scheme of distributed generation injecting

P. V. V. Satyanarayana
RESEARCHER
INSTITUTE OF SCIENCE & TECHNOLOGY
Guntur, India

High-Efficiency Single-Input Multiple-Output DC-DC Converter

G. PRADEEPAN¹, K. SRIKANTH²

¹Associate Professor, Mahabaleswaram Institute of Science and Technology, Hyderabad, India
²PhD Scholar, Mahabaleswaram Institute of Science and Technology, Hyderabad, India

Abstract: A soft-switching dc/dc converter with high voltage gain is proposed in this paper. It provides a continuous input current and high voltage gain. Moreover, soft-switching characteristics of the proposed converter reduces switching loss of active power switches and raises the conversion efficiency. The reverse-recovery problem of output diodes is also alleviated by controlling the current clamping rate of diodes with the use of the leakage inductance of a coupled inductor. Hybrid power system consists of a combination of renewable energy sources such as photovoltaic (PV), wind generators, hydro, etc., to charge batteries and provide power to meet the energy demand. Finally, a simplified design procedure is proposed in hybrid system by using stand-alone application.

Keywords: Active Clamp, DC-DC Converter, High Step Up, Switched Capacitor, Voltage Doubler Circuit

I. INTRODUCTION

Recently, the demand for dc/dc converters with high voltage gain has increased. The energy shortages and the atmospheric pollution have led to more researches on the renewable and green energy sources such as the solar arrays and the fuel cells. Moreover, the power systems based on battery sources and super capacitors have been increased. Unfortunately, the output voltages of these sources are relatively low. Therefore, the step-up power conversion is required in these systems. Besides the step-up function, the demands such as low current ripple, high efficiency, fast dynamics, light weight, and high power density have also increased for various applications. Input current ripple is an important factor in a high step-up dc/dc converter. Especially in the fuel cell systems, reducing the input current ripple is very important because the large current ripple shortens fuel cell's lifetime as well as decreases performances. Therefore, current fed converters are commonly used due to their ability to reduce the current ripple. In applications that require a voltage step-up function and a continuous input current, a continuous-conduction mode (CCM) boost converter is often used due to its advantages such as continuous input current and simple structure. However, it has a limited voltage gain due to its parasitic components. The reverse-recovery problem of the output diodes is another important factor in dc/dc converters with high voltage gain.

II. PROPOSED SYSTEM ARCHITECTURE

A non-isolated capacitor-voltage doubler cell is introduced. It can achieve high voltage gain without large duty ratio operation. However, to obtain high conversion ratio multiple of such cell has to be used. Switched capacitor or switched inductor based converters are prone to inductive/switched capacitor ripples proposed have advantage of lack of magnetic components and good low regulation. For high gain applications, these converters require more number of switched capacitor and switched inductor cells. This increases the component counts.

A. Active clamp

Forward converters with active clamp reset offer multiple benefits to designers and are presently finding wide use. Power converters based on the forward topology are an excellent choice for applications where high efficiency and good power handling capability is required in the 50 to 500W power range. While the popularity of forward topology is based upon many factors, designers have been primarily drawn to it's simplicity, performance, and efficiency. The forward converter is derived from the buck topology. The main difference between the two topologies is that the transformer employed in the forward topology provides input/output ground isolation as well as a step-down or step-up function. The transformer in a forward topology does not inherently reset each switching cycle as do symmetrical topologies (push-pull, half-bridge, and full-bridge). A number of different reset mechanisms have been employed in forward power converters, each method has its own benefits and challenges. Forward converters with active clamp reset offer multiple benefits to designers and are presently finding wide use.

B. DC-DC Converter

The buck-boost converter is a type of DC-to-DC converter that has an output voltage magnitude that is either greater than or less than the input voltage magnitude. It is equivalent to a flyback converter using a single inductor instead of a transformer [1]. Two different topologies are called buck-boost converter. Both of them can produce a range of output voltages, from an output voltage much larger (in absolute magnitude) than the input voltage, down to almost zero. The inverting topology. The output voltage is of the opposite polarity than the input. This is a switched-mode power supply with a similar circuit topology to the boost converter and the



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G. PREM KUMAR REDDY

Mahaveer Institute of Science and Technology, Hyderabad.



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DG Integrated Common DC Link Fed Parallel DSTATCOM for Power Quality Improvement and Active Power Injection

P. V. V Satyanarayana*, P. V. Ramana Rao**

* Research Scholar, ** Professor and Head

Department of Electrical and Electronics Engineering,
Acharya Nagarjuna University, Guntur, AP, India

Abstract: Power quality is a thrust area taken up by electrical engineers as power quality issues cause immense disturbances in the power system. Power quality refers to the capability of load component to absorb the supplied power. DSTATCOM is a renowned power electronic active filter for harmonic compensation. Distributed Generation (DG) integration is the key aspect in the present day power system scenario. This paper presents the parallel DSTATCOM configuration (with common DC-Link) in a power system connected at point of common coupling. One of the VSIs in parallel DSTATCOM configuration acts as a power quality enhancer reducing the harmonics and the other as active (Distributed Generation) power injector. This topology avoids the use of extra (separate) VSI for the integration of Distributed Generation. The proposed model is developed and the result analysis is put forward with MATLAB SIMULINK software

Keywords: Power quality, harmonics, parallel DSTATCOM, DG integration

1. INTRODUCTION

Power quality, as referred to source, is consistency and the power quality as referred to load is power delivered for the reasonable operation of load equipment. The quality of power [1-3] refers to the capability of load component to absorb the supplied power. Power quality issues have considerable impact on the efficiency of electrical equipment. With low power quality, the usage of electrical energy increases and also results in equipment failure and instability. The power supply system can only control the quality of the voltage and it has no control over the nature of load current. Harmonics are one issue that diminishes the quality of power [4-5].

DSTATCOM in distribution system is viable option [6-7] optimizing power utilization and reduces power costs. Controlled DSTATCOM estimates the harmonics and ensures the distortion in current shape is well within the prescribed limit. Figure 1 illustrates the DSTATCOM connected power system.

(25)

ZVS based switching technique mitigates the power losses using mosfet based full bridge dc converter

Durgam Kumara Swamy^{1*}, Dr. B. V. Sanker Ram²

¹Research Scholar, JNTUH, Hyderabad
²Professor, Dept. of EEE, JNTUH, Hyderabad
*Corresponding author E-mail: dkswamy1213@gmail.com

Abstract

In today's vitality power industries Boost converters highly required to convert the normal power into improvised power. Normally vitality converters struggled with voltage pressure over the power electronics switching nature and undulation. The renewable energy of a kind that vitality Photovoltaic (PV)-cell sources, windmill and battery are the sources for the converters; in this Photovoltaic play a vital role and mostly used medium to provide converters for further processing. The vitality PV is basically acted along with solar power efficiency, which is improvised ZeroVoltage Switching [ZVS] converters. The Zero-Voltage Switching [ZVS] converters transforms the low-power DC energy to high-power or vitality DC-energy, which reduces the voltage pressure over the power electronics switching units and undulation is improving execution of the electrical system vitality efficiently and simplifying the circuit nature.

Keywords: Photovoltaic (PV)-Cell; Zero Voltage Switching - (ZVS); Fuzzy Based Fuel-Cell DC-DC Converter-(FBFDCDC).

1. Introduction

Vitality Photovoltaic (PV)-Cells are the highly required and demandable energy vitality providers, which are also identified as a important supplement to provide an enhanced renewable sources to electrical units. Now-a-days the problem of pollution overloads and natural improper leadings, requirement is large for fuel-cell based energy sources as a supplement to the present energy providing sources, which is can provide good efficiency with power emissions. Generally vitality Photovoltaic (PV)-Cells are acting as a vitality transforming device, which transforms the Light energy converted to electrical energy and produces the electrical power. Photovoltaic (PV)-Cells are capable of providing huge power emissions and it can satisfies the essentials of large electrical units acting as power supplement repository. However numerous complications are surrounded with the PV cells in research summary, because there are number of Solar cells available in market and providing energy sources for different mechanisms and each one is operated for different attributes such as temperature', humidity', power balance rate, pressure emission and so on applied capabilities that supports sagacious power management nature. In this system, new electric power supply management system is designed for the solar energy based DC converters, called PV Cell vitality DC-DC Converter [FBFDCDC], which effectively manages power source system and performing the DC boost conversion operation over power electronics switching units and undulation. A vitality solar (PV)-cell is a technology, converts solar energy into electrical energy. The majority components used is silicon semiconductors, and combine with photons that generates an vitality electrical voltage. This Photovoltaic cell is used as input to the preferred and existing circuit. In order to decrease the cost instead of FC system we are using

2. Fuel cell system (FCS)

FCS is bind-up with electro-chemical vitality substance, which transforms the richest hydrogen' fuels into straight electrical vitality with enhanced performance and intelligence. In this transformation, the main concentration or take care is needed in the steps of reducing the heat emission and mechanical activities, as such the traditional methodologies proceed toward, these fuel-cells not supervised by thermal- situations surroundings like the Efficiency.



The energy ranges from 1.5v with no loads connected to 3.8v with load connected. With these estimations we can get sustainable electric supply and energy source from the fuel-cell to the converters for further precedence.

3. Zero-voltage switching converter design

The vitality ZeroVoltageSwitching Converters are generally used for transforming the small amount of DC generated power into large amount of DC power response. Generally, the PWM plans to control output voltage operations of the converters. ZeroVoltage Switching strategies are highly improves the vitality generation of the boost converters to minimize the power undulation in output portion. The output generated by the solar-(PV) is 12v DC, which is passing as an input to the Switching DC to DC vitality converter.

March 29, 2019

Solar E- Bicycle Using Hub Motor

S Abdhul Hakeem , K Nobel Rajesh¹

Guided by

²Dr.M.Sudhakaran HOD/EEE

Electrical & Electronics Engineering.

Ganadipathy Tulsi's Jain Engineering College, Kaniyambadi, Vellore.

ABSTRACT

The method of upgrades conventional bicycle over to Solar Powered Electric bicycle that is powered by an electric motor which get supply from photovoltaic (PV) panels. This is no fuel Required & free pollution. The PV panel must be mounted and installed electric bicycle without comprising riding. It is used for heavy traffic areas. This method is both modes working. One of the Solar Power Bicycle Modes. Another one of the Electric Bicycle Modes. Solar Power Bicycle is meant a challenge to get on sunny summer days. Electric Bicycle is meant challenge to get on Winter days. Solar Electric bicycles are considered a sustainable alternative to automobile transportation today. The solar electric bike includes all the benefits that conventional bicycle offer , plus faster, more comfortable and longer trips, as well as less effort for user. In this paper , we specifically focus on a new type of e bike , the so -called Solar Powered E-Bike. Therefore review paper explores existing literature findings for use solar energy transportation and more specifically in ebikes. This Paper aims to capture the status of and experience with the use of e bikes ; more specifically, with solar powered e-bikes.

1. INTRODUCTION

Energy is one of the most vital needs for human survivals on earth . We are dependent on one form of energy or the other for fulfilling our needs. One such form of energy is the energy from fossil fuels. We use energy form sources for generating electricity ,running automobiles etc. But the main disadvantage of these FOSSIL FUELS are that they are not environmentally and they are exhaustable. To deal with these problem of fossil fuels, we need to look at the non - conventional sources of energy. Introduced Electric Bicycle & Solar Electric Bicycle. One of the largest sources of air pollution in urban areas in transportation. Air pollutants have numerous impact on human health ,the climate, ecosystem and the built environment .European and worldwide authorities support emission-free mobility and consider it necessary for the development of their national sustainable strategies. Since 2000 government have been promoting bicycles as an alternative mode of transporting replace private cars. Solar Bicycles could contribute to the reduction of air pollution ,traffic congestion ,noise emission ,and energy consumption ,allowing at the same time a healthier lifestyle for users. In addition Solar e-bikes constitutes one of the most accessible and cheapest transportation modes (e.g. there is no extra cost for taxes, no driving licenses, parking costs or high service maintenance, as in the case of cars) .

Parallel Connected Multi-DSTATCOM for Power Quality Improvement in Distribution System

P. V. V. Satyanarayana, P. V. Ramana Han

Abstract: Supplying power with good quality is the main objective of electrical transmission system. The load nature, in particular non-linear loads, makes the current at the point of common coupling (PCC) to include harmonics which further affects the other loads connected at PCC. Power quality improvement and management is an important study for the enhancement of electrical transmission and distribution systems to enrich the quality of power delivered at the utilization point. DSTATCOM is one among the FACTS controllers to improve the power quality by nullifying the effect of harmonics at PCC. This paper presents the analysis of dual DSTATCOM topology. In this each DSTATCOM is burdened such that the total compensating currents is shared between the two. Dual DSTATCOM topology is tested and the result analysis is shown with varying non-linear type loading conditions. Dual DSTATCOM is controlled using Instantaneous Reactive Power theory control logic. Parallel DSTATCOM has the advantage of reduction of switch rating and switching losses. The simulation work is carried out using Matlab/Simulink software.

Index Terms: Reactive power, Harmonics, parallel DSTATCOM, non-linear loads.

I. INTRODUCTION

Power system existence and reliability depends on the quality of power that is delivered at the point of utilization. The presence and increasing usage of non-linear loads makes the supply system more complex as they are the source of harmonics into the system. Using power electronic converters fine and smooth control is possible. But the major drawback of power electronic devices is that the system becomes nonlinear which is not desirable inducing non-linearity in the system and waveforms [1-3]. Apart from the existing nonlinear loads, these power electronic controllers make the system with reduced power quality. The major objective of the power system line is to supply the consumers with better quality in power. There are lot of parameters which influence the quality of power such as reactive power, harmonics [4-6], power factor, voltage sag and swell. The best solution to minimize the power quality issue is to use custom power devices which are also called as FACTS (flexible AC transmission system) controllers. Different FACTS devices are STATCOM, APF, DSTATCOM, DVR, and UPQC. STATCOM is used to compensate the reactive power and APF is used to compensate the harmonics. The D-STATCOM [7-9] is used to solve the issues like reactive power and harmonics. DVR compensates the voltage fluctuations and UPQC

compensates all of the above said issues. But, depending on the issue the such devices are connected in the system.

In this paper parallel DSTATCOM concept is implemented in which two DSTATCOM's are connected in parallel to the power system line. The required reactive power and harmonic currents can be injected by controlling the DSTATCOM with suitable control logic. The control theory used in this paper is instantaneous reactive power [10]. The switches in the DSTATCOM are operated by giving gate pulses from control circuit. The advantage of using parallel DSTATCOM is that the number of switches can be reduced with less switching losses. The DSTATCOM connected to power system line is shown in figure 1. As the load is nonlinear, it draws nonlinear current including harmonics. DSTATCOM supplies compensating currents by injecting harmonic component of current to mitigate the harmonics.

This paper presents the analysis of dual DSTATCOM topology. In this, each DSTATCOM is burdened such that the total compensating currents is shared among the two. Dual STATCOM topology is tested and the result analysis is shown with varying non-linear type loading conditions. Dual DSTATCOM is controlled using instantaneous reactive power theory control logic. Parallel DSTATCOM gives the advantage of reduction of switch rating and switching losses. The simulation work is carried out by using Matlab/Simulink software.

II. SYSTEM WITH PARALLEL CONNECTED DSTATCOM CONFIGURATION

Figure 2 shows the parallel DSTATCOM configuration which is proposed in this paper. The system has nonlinear loads which draws nonlinear currents and deteriorates the power system. If only one DSTATCOM is connected, then point of common coupling is the only point where we need to send the compensating currents. These total harmonic currents must be injected by the same DSTATCOM, which increases the device ratings in DSTATCOM. To reduce the switch rating and switching losses two DSTATCOM's are connected in parallel using an interfacing inductor. In this case, the parallel DSTATCOM configuration is able to mitigate the harmonics even when the nonlinear load is varying. In this work the load variation is made with incremental and decrement loads. Figure 3 shows the incremental load variation of parallel connected DSTATCOM configuration. This configuration acts as a harmonic compensator for power system. The DSTATCOM is a current injected device, so it is connected in parallel to line.

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P. V. V. Satyanarayana, Research Scholar, Department of EEP, Acharya Nagarjuna University, Guntur, AP, India
P. V. Ramana Rao, Professor & HOD, Department of EEP, Acharya Nagarjuna University, Guntur, AP, India

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Design of a Novel Isolated Single Switch AC/DC Integrated Converter for SMPS Applications

Nagi Reddy, B¹, M. Bharathi², M. Pratyusha³, K. S. Bhargavi⁴, Srikanth Goud, B⁵

¹Asst. Prof. IIT Dept. MIT, Hyderabad, India. nagireddy208@gmail.com

²Visiting PhD degree in IIT Dept. KITE, Vaddeswaram, India

³Asst. Prof. IIT Dept. GITAM school of Technology, Bengaluru, India

⁴Asst. Prof. IIT Dept. Mahaveer Inst. Of Science and Technology, Hyderabad, India

⁵Asst. Prof. IIT Dept. Awinag College of Engineering, Hyderabad, India.

ABSTRACT

A novel single-stage single-switch isolated converter is proposed for attaining high power factor and wide voltage conversion range. This converter uses a buck-boost type PFC circuit with a buck type DC-DC regulator to process the input power in a single step. By this integration, the proposed converter is able to attain unity input power factor, wide voltage conversion range, low switching voltage stresses and high efficiency. By reducing the converter non-inverted output voltage is obtained which is an advantage over non-isolated topologies. The input buck-boost stage is operated in discontinuous conduction mode (DCM) to attain high input power factor and the output buck stage is operated in continuous conduction mode (CCM). A simple single closed loop voltage feedback controller is used to get well-regulated and fast output voltage response. A detailed principle operation and design of converter has been analysed theoretically. The performance of the proposed converter is simulated by using MATLAB-SIMULINK software to validate the simulation results with the experimental results.

Key words: Single switch, isolated, integrated converter, PFC, buck-boost, ac/dc converter.

1. INTRODUCTION

Currently AC-DC converters are much important because of their applications in all fields such as renewable, EV's, battery storage systems, uninterruptible (UPS) and switch-mode (SMPS) power supplies, LED drivers etc., These types of applications it requires PFC system to enhance the input power factor with low-harmonic distortion at input current [1-4]. In conventional ac/dc converters normally consists of two stages, first stage performs the PFC operation and in second stage is DC-DC regulator. Based on this different converters are designed to achieve unity input current, high efficiency and to get less input current percentage (% THD) [5-7].

A class of DC/DC converter that converts a source of DC

from one voltage level to another. Linear and switched are comes under the types of DC/DC converter. A linear DC/DC converter uses a resistive voltage drop to create and regulate a specified output voltage. In Switched-mode DC/DC converter (SMC) converts one level of DC voltage to another, which can be lower or higher, storage of the input energy temporarily and then discharging that energy to the output at a various voltage level.

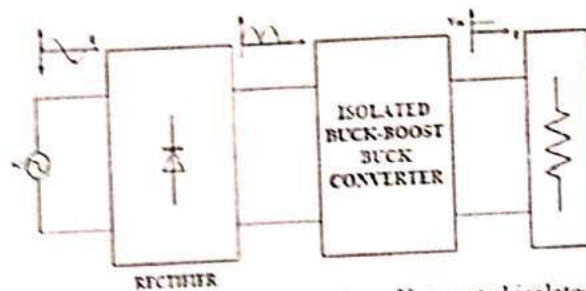


Figure 1: A Typical representation of integrated isolated buck-boost buck converter (BBBC).

These converters storage of input energy is in periodical manner and then discharging that energy to the output at a various voltage level [8-10]. The storage may be either a magnetic field component such as inductor, and or an electric field component like a capacitor. Transformer-based converters provide isolation between the input and the output. SMC offer three main advantages:

- The efficiency of the power conversion is very high.
 - Usage of passive components number are less, switching frequency is higher and losses are lower this simplifies the thermal management.
- An inductor stored energy in a switching regulator, which can be transformed to output voltages that may be lesser than the input (step-down or buck), more than the input (boost), or buck-boost with reverse polarity (inverter).

A linear converter can only produce a voltage that is lower than the input voltage, unlike SMC. Among all the single-stage converters, the converter is divided into PFC stage and regulator stage [11-13].

Implementation of Wi MAX Protection in Six Phase Transmission Line

L. Kishore, K. Raghu Ram, B.V. Sanker Ram

Abstract: Nowadays, six phase transmission line plays extensive role in electrical power system. The bulk amount power can be transfer and increase the capability of overhead transmission line using six phase transmission line. It has consists of mutually coupled two three phase transmission lines, which are the better alternative approach for enhancing the power transfer capability. Since the six phase transmission line carries the huge power, some protection difficulties are existed in the operation of system. In this paper, Wimax protection has implemented in six phase transmission system for improving the protection security in 6 phase transmission lines. The Wimax system has designed and simulated using MATLAB SIMULINK environment.

Index Terms: WiMAX, six phase transmission line, primary and secondary protection.

I. INTRODUCTION

Nowadays, the electrical power system becomes more complex due to large size of generating size and incorporation of renewable energy sources. The population is also increasing rapidly day by day thought the world. As rapid growth of population, the utilization of electrical energy also used extensively. Thereupon, huge amount of power is needed to transfer everywhere but the 3-phase transmission is not enough to transmit the large amount power from one place to another place. So the feasible and best idea is to mutually coupling the two three phase transmission lines then it becomes incredible power transfer capability of six phase transmission line[1][2][3]. When the enhance of the transmission line strength then voluntarily transmit the very large power to long distance with low losses. However, the number of protection and security problems are appear in system while transferring the power through the six phase transmission line. In addition, many researchers[1], [4]-[7] focused on accurate protection systems for minimizing the problems in six phase transmission line. As consider possibilities of faults in six phase transmission line is 120 and 11 for three phase transmission line. And, various kinds of protection schemes are penetrated in six phase system namely electromagnetic, static and digital relays. The protection schemes would prefer in realistic power system for as early as possible to respond. In this paper, proposed the novel based WiMAX technique has implemented for the problem of protection scheme of six phase system. The proposed system includes primary and back up protection.

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L. Kishore, Electrical and Electronics Engineering, Sree kavitha engineering college, JNTUH, Khammam, Telagana, India

K. Raghu Ram, Electrical and Electronics Engineering, Laqshya Institute of Technology & Sciences, JNTUH, khammam, Telangana, India.

B.V. Sanker Ram, Electrical and Electronics Engineering, JNTU college of engineering, JNTU, Kuarupally, Hyderabad, Telangana, India.

II. SIX PHASE SYSTEM

A. Six Phase Electrical Energy Production

The generation voltages of six phases and three phases are similar phase sequence. When consider the three phase system, the armature coils displacement is 120° one to each other in stator of the generator[5], [6], [8]. Also, in six phase system, the armature coils are placed with 60° apart from to another one in adjacent side coils of generator is demonstrated in fig.1.

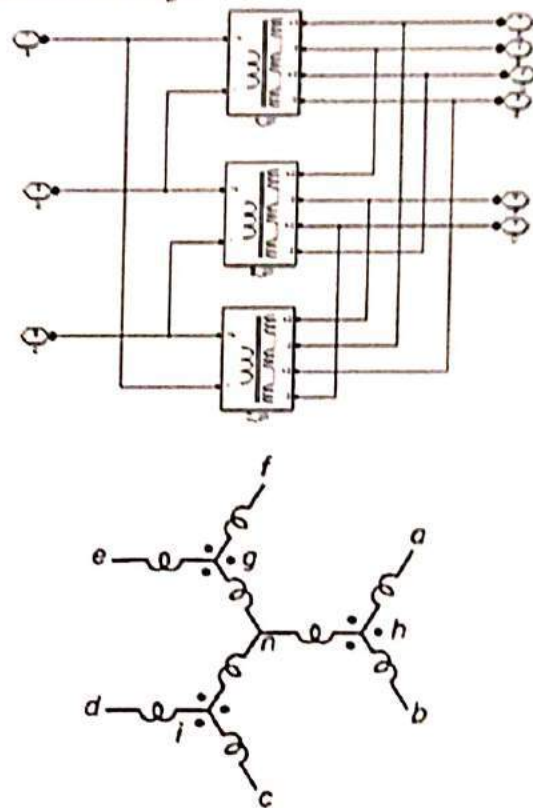


Fig.1(a) six phase voltages and armature coils in six phase system.

The current is passing to the system when the rotor is rotated in clockwise direction then automatically the emf is induced in the coils such as aa', bb1, cc1, dd1, ee1 and ff' along with the voltages are V_a, V_b, V_c, V_d, V_e and V_f . It has shown the different phase sequence that is a-b-c-d-e-f and waveforms of voltage and vector representation is illustrated in fig.1(b) and (c).

Control of Active Power Sharing in DG integrated Parallel DSTATCOM

P.V. Sathyanarayana, Research Scholar, IIT Department, Acharya Nagarjuna University, Guntur, India
 P.V. Sathyanarayana, Professor and Head, IIT Department, Acharya Nagarjuna University, Guntur, India

Abstract—Power Quality is a closeness measure of practical power system to ideal power system. Disturbances in power system cause immense damage to the power network and power quality is a study taken up by power engineers to regulate power system. Consequent to power electronic technology for the development of Custom Power devices (CPD) to regulate the power system disturbances, DSTATCOM, a renowned CPD for harmonic compensation in power distribution system, has emerged. Disadvantages of fossil fuels led to the development of Distributed Generation (DG). This paper presents a topology of common DC-Link fed parallel DSTATCOM which combines the features of power quality improvement and active power injection. This topology avoids the use of separate VSI's for power quality improvement and DG integration. A new control methodology is presented for controlling the active power sharing between two VSI's of parallel DSTATCOM. The proposed model is developed using MATLAB SIMULINK software and the results are analyzed.

Keywords—Power Quality, parallel DSTATCOM, DG integration, active power sharing.

1. Introduction

Energy is very essential to all the living organisms. Electrical energy is one form that contributes to the development of the nation. Maintaining the power quality is utmost important in power industry. Utility loads are affected when the delivered power is of poor quality and results in economic loss and unusual production output. Power with good quality [1-3] contributes to the reliable operation of the equipment.

End user equipment decides the quality of the power. If the user devices at load points work satisfactorily then the delivered power is of good quality and vice-versa. Voltage sags and swells, transients, harmonics are some of the power frequency disturbances contributing to poor power quality. Sudden switching ON or OFF of heavy loads leads to voltage sag or swell. Power factor and grounding problem also contribute to poor power factor in power system network [4-5].

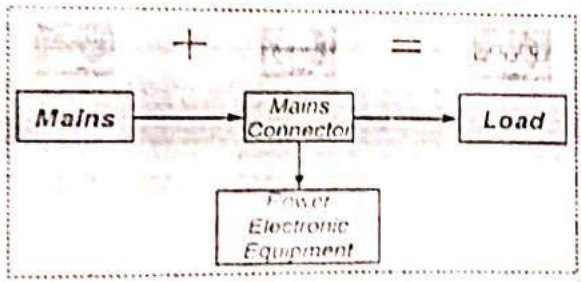


Figure 1: Illustration of power flow in a power network

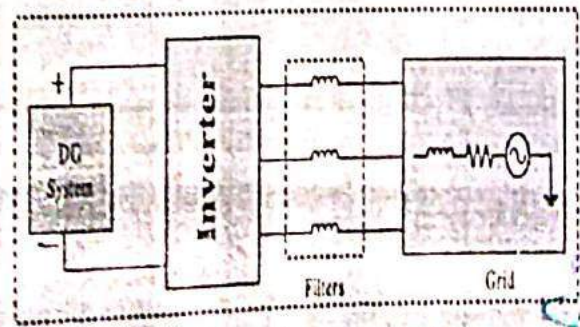


Figure 2: DG integration to grid

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A Voltage-Controlled DSTATCOM for Power-Quality Improvement

G. PREM KUMAR REDDY¹, KAMMAMPATI SURESH²

¹Associate Professor, Mahaveer Institute of Science and Technology, Hyderabad, India.

²PG Scholar, Mahaveer Institute of Science and Technology, Hyderabad, India.

Abstract: Solid state power converters are widely used in applications such as Adjustable speed drives (ASD), Static power supplies. Hence it affects the power quality (i.e.) related to non-standard voltage, current and frequency at the load side. In this paper an attempt has been to analyse the role of D-Statcom (Distribution static compensator) and located at load side in the distribution system, which can to eliminating or overcome the problems of source side like voltage sag and interruption etc. In order to maintain the power system quality the D-Statcom will absorb and provide reactive power to mitigate voltage sag, swell, interruption and improve power factor in various conditions. Utility distribution network, sensitive industrial load and critical commercial operation suffer from various type of outage and service interruption, which can cost significant financial losses. Here in this paper the work has been carried out by various techniques with D-Statcom to minimize the problem associated in distribution system such as voltage sag, swell, interruption and low power factor in power system with different condition. D-Statcom used to supply the reactive power and absorb the real power to maintain power quality as well.

Key Words: Current Control Mode, Power Quality (PQ), Voltage-Control Mode, Voltage-Source Inverter.

1. INTRODUCTION

To overcome the problem related to the power quality custom power device is introduced. A number of power quality problem solutions are provide by custom devices. At present, a wide range of flexible AC controller which is capitalized on newly available power electronic components is emerging for custom power application. Among these distributions static compensator is used in the present work. The fast response of D-STATCOM makes it efficient solution s for improving the power quality in distribution system. Here the D-STATCOM used with different controller such as PI to improve the power quality under different abnormal condition, which causes the power quality related problem. Under the heavy load conditions, a significant voltage drop may occur in the power system. Voltage sags can occur at any instant of time, with amplitude ranging from 10-90% and a duration lasting for half a cycle to one minute. Voltage swell is less commonly occurs in distribution system. D-STATCOM basically VSC based FACTS controller it is employed at distribution level or at

load side also behaves as shunt active filter. It works as the IEEE-519 standard limit. Since the electrical power distribution system it is very important to balance the supply and demand of active and reactive power in the electrical power system. In case if the balance is lost the frequency and voltage excursion may occur result in collapse of power system. So we can say that the key of stable power system. The distribution system losses power quality problems are increasing due to reactive power. The main application of D-STATCOM exhibit high speed control of reactive power to provide voltage stabilization in power system. The D-STATCOM protect the distribution system from voltage sags, flicker caused by reactive current demand.

In this paper, it proposed improved power quality is the driving force for today's modern industry. Consumer awareness regarding reliable power supply has increased tremendously in the last decade. This has lead to an additional thrust to the development of small distributed generation. Small isolated DG sets have the capability to feed local loads and thus leads to improvement in reliability of power with low capital investment. These systems are also gaining increased importance in isolated areas where transmission using overhead conductors or cables is unrealistic or prohibitive due to excessive cost. Small generation systems in hilly terrains, islands, off shore plants, power distribution in rural areas, aircrafts etc can be efficiently utilized even in developing countries. However, these DG sets may have to be de-rated if induction motor loads are simultaneously started. One useful option is to use DSTATCOM in shunt configuration with the main system so that the full capacity of generating sets is efficiently utilized. DSTATCOM employs a voltage source converter (VSC) and generates capacitive and inductive reactive power internally. Its control is very fast and has the capability to provide adequate reactive compensation to the system. DSTATCOM can be effectively utilized to regulate voltage for one large rating motor or for a series of small induction motors starting simultaneously. Induction motor loads draw large starting currents (5- 6times) of the full rated current and may affect working of sensitive loads.

Voltage dips are one of the most occurring power quality problems. Off course, for an industry an outage is worse, than a voltage dip, but voltage dips occur more often and cause severe problems and economical losses. Utilities often

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Principal
Mahaveer
Institute of Science and Technology
Banaraguda, Hyd-500 085.

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SIX PHASE TRANSMISSION LINE PROTECTION BY USING MASTER SLAVE CONTROL

L.Kishore Dr.K Raghu Ram Dr.B.V Sanker Ram
Sreekavitha Engineering college, Khammam, Telagana-5007002,India

Abstract— An as of late proposed idea of enhancing six stage frameworks by synchronous ac- dc control transmission empowers the long additional high-voltage air conditioning lines to be stacked near their warm points of confinement. The conductors are al-lowed to convey a specific measure of dc current superimposed on regular air conditioning. This paper introduces the possibility of six stage framework utilizing 12 beat converters which would disregard moderately little networks/provincial territories having no entrance to a noteworthy power transmission arrange enables little capacity to tap ping from composite ac- dc control transmission lines. The proposed conspire is carefully reenacted with the assistance of a PSCAD/MATLAB programming bundle. Reenactment comes about plainly show that the tapping of a little measure of air conditioning power from the composite ac- dc transmission line negligibly affects the ordinary working of the composite ac- dc control transmission framework.

Key Terms—six stage framework, 12 beat converters, SVPWM, Hybrid controller.

1.INTRODUCTION

By and by, about portion of the total populace, particularly those in creating nations, lives without power [1]. Nowadays, the supply of power is viewed as fundamental to benefit typical offices of day by day life. Its accessibility is key for financial improvement and social upliftment. Extensive power (steam, hydro, atomic) stations are generally situated a long way from stack focuses. The wheeling of this accessible electric vitality from these remotely found stations to stack focuses is accomplished either with additional high-voltage (EHV) air conditioning or HVDC

transmission lines. These EHV air conditioning/HVDC transmission lines regularly ignore moderately little networks/provincial territories that don't approach a noteworthy power transmission arrange. It is most attractive to discover techniques for interfacing these networks to the fundamental transmission framework to supply shoddy and plenteous electrical vitality. In any case, the HVDC transmission framework suffers a huge disservice contrasted with EHV air conditioning transmission, concerning the tapping of intensity from a transmission framework. Techno-sparing reasons keep the tapping of a little measure of intensity

Space Vector Based Novel and Simple Unified Pulsewidth Algorithm for Induction Motor Drives

¹M. Rajendar Reddy, ²T. Brahmananda Reddy, ³J. Amarnath
and ⁴D. Subba Rayudu

¹Electrical & Electronics Engineering Department
Kosum College of Engineering, Kurnool-518218, Andhra Pradesh, India.
E-mail: mullurreddy@yahoo.co.in

²Electrical & Electronics Engineering Department
G. Pulla Reddy Engineering College, Kurnool-518002, Andhra Pradesh, India
E-mail: thur@rediffmail.com

³Electrical & Electronics Engineering Department
J.J. Nijam Technological University, Kadugally, Hyderabad, Andhra Pradesh, India
E-mail: amarnathjinka@rediffmail.com

⁴Electrical & Electronics Engineering Department
G. Pulla Reddy Engineering College, Kurnool-518002, Andhra Pradesh, India
E-mail: thur@rediffmail.com

Abstract

This paper presents a space vector based simple and novel unified pulsewidth modulation (UPWM) algorithm for induction motor drives by using the concept of offset time. The conventional space vector PWM (SVPWM) algorithm divides the zero state time equally between two zero states. But, the variation of zero voltage vector time duration results in generation of various discontinuous PWM (DPWM) algorithms. The conventional SVPWM algorithm requires the calculation of sector and angle information, which increases the complexity of the algorithm. Hence, to reduce the complexity, the proposed PWM algorithm uses the concept of offset time and does not use sector and angle information. In the proposed algorithm, first, a general expression for offset time in terms of zero voltage vector time partition parameter (μ) and modulation angle (θ) is derived. Then by varying μ and θ various DPWM algorithms have developed. To validate the proposed algorithm, several numerical simulation studies have been carried out on v/f controlled induction motor drive at different modulation indices and results are presented and compared.



A SCHEMATIC STUDY AND APPROACH TO SOLVE VOLTAGE UNBALANCE OF THE DC SUPPLY IN MULTILEVEL H-BRIDGES BASED SOLID STATE MOTOR

G. PREM KUMAR REDDY

M. Tech, Jawaharlal Nehru Technological University,
Ananthapur, Andhra Pradesh.

Associate Professor

Mahaveer Institute of Science and Technology, Hyderabad

ABSTRACT:

As the expansion of the dc distribution machine and the increase of the penetration of dispersed generations a wise motor with the capability to actively supervise the strength and taking into account the easy connection of the distribution assets is becoming critical. The cascaded H-bridge multilevel inverter (CHMI)-based totally strong kingdom motor (SST) has the functions of immediate voltage regulation, voltage sag repayment, fault isolation, energy aspect correction, harmonic isolation and dc output. Acting very just like an strength router, each SST has bidirectional energy float manage ability permitting it to control energetic and reactive strength float and to deal with the fault currents on each low- and high-voltage aspects. Its massive manipulate bandwidth offers the plug-and-play characteristic for dispersed sources to promptly recognize and reply to adjustments within the system. This paper proposes a 20-kVA cascaded H-Bridge multilevel converter-based totally SST to without delay interface with 7.2-kV single-segment distribution voltage degree. The SST includes a cascaded multilevel ac/dc rectifier, dual active bridge (DAB) converters with excessive-frequency motors. The DAB converter regulates the four hundred-V-low-voltage dc bus and introduced dclac inverters can be introduced to present a 60 Hz one hundred twenty/240-V ac residential voltage.

Keywords: Cascaded H-Bridge converter, dq vector control, solid-state motor (SST), voltage and power balance.

I. INTRODUCTION

Permanent the proliferation of disbursed generation and renewable power resources has stimulated the researchers to investigate the feasibility of a new micro grid operation mode future renewable

electric powered energy shipping and management (FREEDM) gadget. The FREEDM system is a brand new medium-voltage micro grid composed of several strong-country motors (SST), high bandwidth virtual communication, and distributed manipulate. As the fundamental element of modern clever micro grid machine, SST is meant to update the traditional line-frequency vehicles and plays the electricity drift control. Conventional cars own many unwanted houses such as cumbersome and electricity nice susceptibility. In evaluation, the SST is a shrewd power electronics gadget with abilities together with managing power waft, presenting strength great improvement, and permitting smooth connection of the distribution resources.

Fig. 1 shows a standard FREEDM gadget which consists of three parts. The first part is the person-stage interface that consists of both a 400-V dc distribution bus and occasional-voltage 220-V ac bus. The second part is a smart power management (IEM) device, which is related to 10-kV ac distribution bus and helps the regulated buses. The IEM is genuinely formed by means of the SST that manages bidirectional energy glide control to all devices linked to the low-voltage (four hundred and 220 V ac) buses and masses. It additionally has many additional features which include voltage law,

Fault Detection of Six-Phase Transmission Lines using Discrete Wavelet Transform

L.Kishore¹, Dr. K.Raghu Ram², Dr. B.V. Sankar Ram³

¹ Department of EEE, SreeKavitha Engineering College,
Khammam, kishorephd724@gmail.com

² Department of EEE, Laqshya Institute of Technology &
Sciences, dr_k_raghuram@yahoo.com

³ Department of EEE, JNTU Hyderabad, bvaram4321@yahoo.com

Abstract

This paper discusses about the detection of faults in six-phase transmission line by using discrete wavelet transform (DWT). Now a days power utilization is drastically increasing, so the need of enhancement in power transmission capability is inevitable. To support this situation six-phase transmission system is introduced. This will increase the power transferring capability of the system with same right of way as 3 ϕ transmission lines. The major problem in six-phase transmission line is fault protection and detection. Here wavelet transform is used to detect the fault in six-phase transmission line based on the phase currents. The 100km test system is taken for analysis and simulation results are presented to the proposed concept.

Keywords: DWT, Six phase system, fault detection.

1. Introduction

Now a day the power utilization is going on increasing due to world industrialization. The major factors effecting on efficiency of utility system is reliability of power supply. To enhance power transferable capacity three ways are presented, (1) EHV transmission lines (2) HVDC transmission system (3) six-phase transmission line. Among this EHV and HVDC system have some draw backs, those are high conversion cost and in HVDC obscure of circuit breakers (CB). The six phase transmission line has enhanced power transferring capability with same right of way. The transmission system works with reduced stress because of less radio interference and corona effect is reduced.

The conventional relay protection is complex for multi-phase transmission line compared to three phase transmission line. Here DWT is used for fault detection in six phase transmission line. DWT takes less time to detect the fault in six-phase line. It analyse fault current from system, divided into no of samples than compared with its threshold value. Based on this steady the fault on the system will detect.

Appliance of Soft Switching Scheme over Fuel-Cell based Power Conversion Improvement via Fuzzy Nature

Durgam Kumaraswamy, B.V. Sanker Ram

Abstract: In PV based Solar and Tele-Communication industries power efficient DC-to-DC converters are required to manage the Fuel Cell Systems. These DC-DC converters should be high in power and efficiency as well as it should have low Electro Magnetic Induction [EMI]. The main motto of this systems are to raise the power by using Step-Up Conversion and improving the soft switching ratio. The usage of Coupled inductor and Isolated Transformers are satisfying the needs of higher voltage supply and soft switching scenario. For transforming the electro chemical energy into electrical energy fuel cells are needed, as well as this fuel cells are used to attain high efficiency, lower emitting ratio and speedier operating power while conversion. Several approaches have been already realized to these kind of DC-to-DC power conversion scenarios but failure free scenario of fuel cell systems needs the elimination of bad voltage switchings, requiring higher inputting power as well as large ranging of outputs with higher energy efficiency. For getting out from these faults we need a special Soft Switching nature of MOSFETs and resulting rectifiers. The proposed methodology combines the scenario of Fuzzy logical controllers [FLC] with Soft Switching to attain higher efficiency over fuel cells and its performance improvements over anycase of output strategies. This nature will eliminates the losses as power occurred in switching strategies and reducing the back recovering losses and its nature as well as providing the trustworthy conditions in circuit nature and this kind of design eliminates the large circulations over initial stages. The proposed results will be experimentally proven by using MATLAB SIMULINK and Hardware Circuit Scenarios.

Index Terms: Fuzzy Logic, DC-to-DC, Fuel Cell [FC], Electro Magnetic Induction [EMI], Soft Switching.

I. INTRODUCTION

Fuel Cells are control sources that change over electrochemical vitality into electrical vitality with high effectiveness, low discharges, and calm operation. An essential Proton Exchange Membrane [PEM] single cell course of action is fit for creating an unregulated voltage beneath 1V and comprises of two terminals [Anode and Cathode] connected by electrolyte [1]. The yield current ability of a solitary cell relies on upon the cathode viable territory, and a few single cells are associated in arrangement to shape a Fuel Cell stack. Because of the mechanical difficulties related with stacking a few single cells, Fuel Cell are commonly low-voltage,

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Durgam Kumaraswamy, Research Scholar, Department of Electronics and Electrical Engineering, Jawaharlal Nehru Technological University, Hyderabad (Telangana)-500085, India. E-mail: kumaraswamydurgam77@gmail.com

B.V. Sanker Ram, Professor, Department of Electronics and Electrical Engineering, Jawaharlal Nehru Technological University, Hyderabad (Telangana)-500085, India. E-mail: bvsram342@yahoo.co.in

high current power sources and can constantly run while reactant is sustained into the framework [2].

A few ways to deal with acknowledge DC-DC secluded power change for Fuel Cell control sources have been proposed in view of full extension, push-pull, and current-sustained topologies. A portion of the key commitments in the territory incorporate the investigation laid out in the accompanying. A Fuel Cell control converter in view of a controlled voltage doubler was presented, which utilizes stage move tweak to control the power course through the transformer spillage inductance [3]. This intriguing topology ended up being less effective than other conventional topologies [4], however shows the upside of the low part check. A Fuel Cell inverter in view of a customary push-pull DC-DC converter was exhibited highlighting minimal effort, low part number, and DSP control [5]. In view of the push-pull topology, a particular engineering was displayed to improve adaptability and unwavering quality [6].

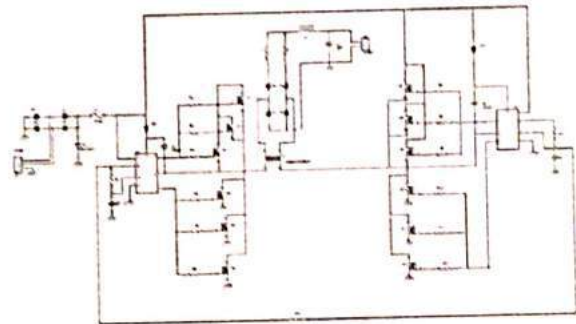


Fig.1. Proposed Circuit Diagram.

An imaginative current-sustained variant of the push-pull topology has been accounted for as a major aspect of a framework associated inverter framework [7]. A comparable current-nourished push-pull topology was utilized in a stage up thunderous converter, showing a high voltage-change proportion [8]. A full-connect forward DC-DC converter with a full-connect rectifier was introduced [9]. This is an exceptionally hearty topology when worked with Zero-Voltage Switching/Exchanging [ZVS] procedure and speaks to an industry standard in numerous applications, for example, telecom control supplies [high input voltage]. A three-stage adaptation of the full-connect forward converter was as of late proposed [10], in light of Δ -Y transformer association and a cinch circuit to lessen the spillage inductance and circling streams. Another group of stage move ZVS with versatile vitality stockpiling was additionally proposed to increment delicate exchanging working reach utilizing helper circuits [11].

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Fuel Cell Power Conversion Enhancement using Fuzzy Based Soft Computing Technique

Durgam Kumaraswamy and B. V. Sanker Ram

Department of EEL, SVS Institute of Technology, Warangal - 506015, Telangana, India;
Kumaraswamydurgam7@gmail.com, bvsstam342@yahoo.com

Abstract

Objectives: The aim of this paper is to minimize power losses of device used for power conversion by new converter topology with the fuel conversion is taken as a distributed generator. **Methods/Statistical Analysis:** A set of soft-switching techniques is suggested for a full-bridge forward topology. A special modulation sequence is improved to reduce conduction loss whereas upholding soft switching characteristics in a MOSFETs and soft transitions in output rectifiers. Lastly to decrease conduction losses of a devices owing to its fast acting nature and stable operation by fuzzy controller. **Findings:** In this paper, we have tried to delineate minimization of conduction losses using fuzzy based controller for new converter topology. It will enhance conversion efficiency and voltage regulation. The transformer used to reduce stress on diodes in rectifier and to diminish the circulating currents. The proposed modifications showed an significant efficiency gain under certain operating circumstance. For instance, an efficiency gain of 3%-4% in a power converter with an overall efficiency of 90% provides an enhancement close to a 30%-40% in the thermal management of the power stage and it allows the uses of low cost power semiconductors and Heatsinks. This can be deliberated as an exceptional development to power density and cost of power conversion stage, where as maintaining the simplicity of a full-bridge topology. In addition to, efficiency gains resulted in the increase of fuel savings under operating circumstance by retaining proposed soft-switching techniques. **Application/Improvements:** The fuel cell applications hold numerous topology and it has a group of DC converters and AC inverters and which are essentially used in fuel cell systems for portable or stand-alone applications.

Keywords: Fuel Cells (FC), Fuzzy, Power Conversion Enhancement, Soft Computing Technique, Voltage Regulation

1. Introduction

Fuel Cells (FC) are power sources which transform electrochemical energy into electrical energy with low emissions, high efficiency and quiet operation. A basic proton exchange membrane (PEM) single-cell arrangement is accomplished to produce an unfettered voltage under IV and it comprises of two electrodes (cathode and

anode) linked by electrolyte¹. The output current ability of a single cell is based on the effective area of the electrode and several single cells are linked in series to form a FC stack. Owing to the mechanical challenges related to stacking single cells, typically FC are high current power sources, low-voltage and can constantly run whereas reactant is fed to the system².

PRINCIPAL
MAHAVEER
DEPT. OF ELECTRICAL TECHNOLOGY
SVS INSTITUTE OF TECHNOLOGY
WARANGAL, TELANGANA, INDIA

*Author for correspondence



Power Conversion Improvement of Fuel Cell Based DG's with ANFIS Controller

By Durgam Kumaraswamy & B.V. Sanker Ram

Abstract- This paper defines a novel ANFIS based controller is used for enhance power conversion efficiency of renewable energy source. Fuel cells are chosen among different types of renewable energy sources. Here a new converter topology is proposed to minimize conversion losses of devices used for power conversion. The input passive elements of rectifier reduce the circulating currents. The transformer and mutual inductors used to reduce stress on the power electronic conversion devices to improve conversion efficiency and voltage regulation. The ANFIS controller will enhance the power conversion efficiency by improving the switching speed and accuracy of in reference generation and it give extended stable operation.

Keywords: fuel cell (FC), renewable energy sources, conversion losses, adaptive neuro fuzzy interface system (ANFIS).

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Paper Authors

* BANOTH RAMBABU, G.SATISH,

* Avanthi's Scientific Technological and Research Academy.



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