ICRCET – 2016

1st International Conference on Research Challenges in Engineering and Technology

Puttur, Andhra Pradesh

18th - 19th August'16

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Institute for Engineering Research and Publication (IFERP)

Organized by:
Siddharth Institute of Engineering and Technology (SIETK)

Siddartha Nagar, Narayanavanam Road,
Puttur, Andhra Pradesh 517583

Welcome Message

On behalf of ***Institute of Engineering Research and Publications (IFERP)*** and in association with ***Siddharth Institute of Engineering & Technology (SIETK)***, Puttur, I am delighted to welcome all the delegates and participants from around the globe to ***Puttur, Andhra Pradesh, India***for the ***1st International Conference on Research Challenges in Engineering and Technology (ICRCET-2016)*** that will take place from ***August 18-19, 2016***.

Transforming the importance of Engineering, the theme of this conference's assembling is "***Research Challenges and Advances in Engineering and Technology***".

It will be a great pleasure to join with engineers, research scholars, academicians and students all around the globe. You are invited to be stimulated and enriched by the latest in engineering research and development while delving into presentations surrounding transformative advances provided by a variety of disciplines.

I congratulate the reviewing committee, coordinator (IFERP & SIETK) and all the people involved for their efforts in organizing the event and successfully conducting the International Conference and wish all the delegates and participants a very pleasant stay at Puttur, AP.,

Mr. R. B Satapathy
Divisional Director
South India Division
IFERP International

PREFACE

Siddharth Institute of Engineering & Technology, Puttur, Andhra Pradesh is organizing an International Conference on Research Challenges in Engineering and Technology (ICRCET-16) on 18 and 19August 2016 in collaboration with Institute For Engineering Research and Publication (IFERP).

Siddharth Institute of Engineering & Technology,emerging center for excellence in Engineering & Management education, boasts of energetic & experienced faculty, successful students, great infrastructure and very good placements record. The management encourages the students and the faculty to "**Dare to Dream**" and "**Strive to Achieve**". The institute is indeed "**dream come true**" for many aspiring youngsters from rural areas in Chittoor District and Southern Andhra Pradesh.The institution is located amid picturesque Eastern Ghats near Narayanavanam village, Puttur on Tirupati-Chennai highway and is well connected by road and rail.The institution was established in the year 2001 by Jaya Educational Society which is headed by Dr. K. Ashok Raju, an educationist and philanthropist.

The International conference is a perfect platform to share experience, foster collaborations across industry and academia and evaluate current and emerging trends across the globe. The ICRCET-16 is a prominent event which brings researches, engineers, academia, industry experts and students together.

We are earnestly thankful to all the authors who have contributed their research work to the conference. We thank our Management for their wholehearted support and encouragement. We thank our Principal for his continuous guidance. We are also thankful for the cooperation of our local organizing secretaries, executive committee members and National and International Advisory Committees.

Dr. K. Ashok Raju, Ph.D.
Chairman

MESSAGE

I am extremely proud that our Siddharth Institute of Engineering& Technology is organizing an International Conference on Research Challenges in Engineering and Technology, **ICRCET- 2016**.

The ever changing needs of the humanity and the never-ending thirst for innovation are leading to technological advances at a rapid pace. At our Institute, it is believed that **Change is the only constant thing** and that forms the basis for grooming the students. This is a great platform to exchange the ideas of researches, academicians and other participants. It will also be an exciting and golden opportunity to the students and faculty members of the institution to enhance their knowledge. I sincerely entreat all the participants to endure their research efforts accomplishing the dreams of India like Make in India, Digital India etc.

ICRCET- 2016 is yet another initiative by our institution to stimulate enthusiasm and creative temper among the scholars and academicians.

I congratulate our Principal, Convener of the International Conference, Heads of the Departments, faculty, staff and the students for this milestone achievement.

Also, on behalf of our institution, I whole heartedly thank **IFERP** and welcome all the guests, speakers and delegates.

I wish the International Conference a grand success.

Dr. K. Ashok Raju

Prof. K. Indiraveni, M.Tech.
Vice-Chairman

MESSAGE

I am very much pleased to welcome you to the first International Conference on Research Challenges in Engineering and Technology, **ICRCET- 2016,** being organized by our Siddharth Institute of Engineering & Technology.

The institute has been making persistent efforts to instill scientific acumen among the students and the faculty. A platform like ICRCET-2016 is in furtherance of our efforts to inspire the young engineers to think innovativelyand get inspired towards research. This conference will help the researchers, academicians and other participants to be aware of the latest developments and also learn from one another.

I congratulate and thank our Principal, Convener of the International Conference, Heads of the Departments, faculty, staffand the students for this milestone achievement.

Also, on behalf of institution, I profoundly thank **IFERP** and welcome all the guests, speakers and delegates.

I wish the International Conference a grand success.

K. INDIRAVENI

Dr. K. Chandrasekhar Reddy, M. Tech., Ph.D.

Principal

MESSAGE

I am immensely happy that we are organizing an International Conference on Research Challenges in Engineering and Technology, ICRCET- 2016 at our institution.

Technology changes are taking place at a rapid pace in the society because of research. This International Conference is a great platform for sharing innovative ideas among the researchers, academicians and other participants. It will also be an opportunity to the students of our institution to get inspired and motivated towards research.

I sincerely thank our management team for their constant encouragement and support.

I profoundly thank the delegates, resource persons, academicians and other participants for taking part in this International Conference.

I congratulate and thank the Convener, Heads of the Departments, faculty, staff and energetic students for their diligent efforts in bringing this concept into reality.

I thank Institute for Engineering Research and Publication (**IFERP**) for their association with us towards organizing this International Conference.

I encourage all the zealous participants to learn from one another.

KSReddy

Dr. K. Chandrasekhar Reddy

Principal

Dr. S. Sunil Kumar Reddy, M.TechPh.D.
Convenor
Head of the Department, MECH

MESSAGE

I am pleased to welcome you to the first International Conference on Research Challenges in Engineering and Technology, **"ICRCET- 2016"**at our institution on 18 &19 August, 2016 in association with Institute for Engineering Research and Publication (**IFERP**).

Siddharth Institute of Engineering & Technology is a place where one can achieve her/his success with hard work and commitment. As we are now an autonomous Institution, with our creative and striking curriculum, we include the latest developments in all engineering subjects along with ethics to enhance critical thinking and analytical skills of the students. This International Conference will be a step forward in our efforts to bring the academia and industry together, create a platform for sharing the technological developments among the delegates and instill scientific temper among the student community.

This conference provides an opportunity for all the researchers, academicians, and the students to exhibit their creativity and ideas, and discuss the new trends in technology, which makes them competent in this present competitive world.

The success of any event requires support and encouragement from all the members. I sincerely thank our management for giving me an opportunity as a convener for the conference. I appreciate all our team members for their support. Further I thank all the participants for participating in this conference and making the same a grand success.

Dr. S. Sunil Kumar Reddy

Dr. M.JANARDHANA RAJU, M.E., Ph.D.
Co-Convenor
Head of the Department, ECE

MESSAGE

I feel proud that Siddharth Institute of Engineering & Technology is organizing International Conference on Research Challenges in Engineering and Technology (**ICRCET-16**) on 18 and 19 August 2016 in association with Institute for Engineering Research and Publication (**IFERP**).

Extensive research work in the fields of Engineering and Technology resulted in rapid development of technology and enhanced living standards of the humankind. Nowadays, frequent changes in the technology impact our day to day life. Our objective is to provide a forum for discussing the development, implementation, use and application of emerging technologies through this conference. This conference will provide an opportunity to the participants for developing interaction with academia from other institutes and universities of high academic standards and people from renowned Industries. This eventually will open opportunities to collaborate with other Universities and Institutes, and also to nurture partnership between Industry& Engineering Education Institutions.

On behalf of Siddharth Institute of Engineering & Technology, I heartily welcome the respected Keynote Speakers, eminent academicians and all the delegates to the ICRCET-16.

I wish the conference a grand success.

Dr. M.JANARDHANA RAJU

Dr. M. CHITHIRAI PON SELVAN
Associate Professor – Mechanical Engineering
Amity University, Dubai
United Arab Emirates

Biography:

Dr. Chithirai Pon Selvan completed his Bachelors in Production Engineering (1996), Masters in Computer Aided Design (2004) and Ph.D. in Mechanical Engineering (2013). He has eighteen years of teaching experience and one and a half years industrial experience. Over the years, he has taught various courses for under-graduate and post-graduate students of Mechanical Engineering and guided them in their project work.

Dr. Selvan has published more than fifty research articles in international journals and has presented papers in many conferences in India, UK, Thailand, Malaysia, Italy and UAE. He has been invited and honored as key note speaker, session chair, resource person and technical committee member in various conferences around the globe. He has attended in many workshops, faculty development programs, seminars, exhibitions etc. He is also in the editorial board of more than thirty international journals. His research interests are in the area of manufacturing technologies, particularly non-traditional manufacturing techniques. He is a well-known researcher in the field of Abrasive Water jet Cutting Technology and has evaluated Ph.D. theses in Mechanical Engineering of various Universities. He is a life member of Indian Society for Technical Education (ISTE). He joined in Amity University, Dubai in November 2015 after serving seven years at Manipal University, Dubai where he worked as Associate Professor in Mechanical Engineering.

Dr. M.CHITHIRAI PON SELVAN

Dr. A. G. Matani
Associate Professor - Mechanical Engineering,
Government College of Engineering, Amravati

Biography:

- **Present Affiliation:**
  Associate Professor -Mechanical Engg Dept, Govt. College of Engineering, Amravati- [M.S.]- India. E-mail: ashokgm333@rediffmail.com, drashokmatani@gmail.com **M - 09890798181**

- **Educational Qualifications:**
  Ph.D. (Mech. Engg). MBA (Marketing)

- **Professional Teaching / Research / Industry Experience:**
  Total (Academic, Research, Administrative & Industrial) = **27 Years**

- **Areas of Interest:**
  Energy Conservation, Industrial Engineering, Productivity, Industrial Management, Operations Management, Entrepreneurship, Water Conservation and Environment

- **Publications & Research Experience:**
  Presented an excellent number of research / technical papers Seminars / Conferences in Indian Institutes of Technology [IITs/ IIMs/ NITs]

- **Ph.D. Guidance:**
  Two Ph.D. scholars awarded Ph.D. degree & One Ph.D. scholars submitted Thesis and One PhD scholar research work in progress

- **MDPs / STTPs / Workshops / Seminars conducted :**
  Organized 5 MDPs / STTPs sponsored by AICTE/ ISTE under TEQIP

- **Patents Submitted :**
  4 patents have been accepted for publication on Indian Patent Office Mumbai website

- **Reviewer of Conferences :**
  National Conference Product Design, Manufacturing(NCPDM)2015@M.N.N.I.T.-Allahabad2015,21st-22ndNov 2015

  2nd International and 17th National Conference on Machines & Mechanisms, iNACoMM 2015 @ I.I.T.-Kanpur ,16th -19th December 2015

- **Keynote Lecture / Chairing of Sessions / Expert Lectures in FDPs/STTPs in International Conferences:**

1) Delivered keynote address on energy conservation and energy audit at CSIR sponsored workshop at Manipal University, Manipal during 14-15 Oct 2011

2) International Conference on Global Economic Crisis and Strategic Advantage organized by Sinhagad Institute of Management, Pune on date 24th Feb 2012

3) Technical session chair 2013 in International Conference on Industrial Engineering organized by SVNIT Surat during Nov. 20-22, 2013.

4) Session co chair in Second International Conference on Advances in Industrial Engineering Applications (ICAIEA 2014), Anna University Chennai, India, January 6-8, 2014

5) Chaired the Technical Sessions in International Conference on Management Research (IMRC) organized by Alkesh Dinesh Mody Institute for Financial and Management Studies at Mumbai University , Kalina Campus , Santacruz - Mumbai on date 28th Feb. and 1st March 2014.

6) Session chair in International Conference on Environment & Energy (ICEE 2014) Jawaharlal Nehru Technological University (JNTU) Hyderabad , 15-17 Dec 2014 [7] Session Chair 3rd International Conference on Industrial Engineering (ICIE-2015) Sardar Vallabhbhai National Institute of Technology, Surat November 26 - 28, 2015

7) Session Chair in 3rd International Conference on Trends in Industrial and Mechanical Engineering, IC TIME 2016 organized at Maulana Azad National Institute of Technology (MANIT)- Bhopal, 4-6th Feb 2016

Dr. A.G. MATANI

Dr. Y Vijaya Kumar
Principal
Sri Sairam College of Engineering
Bengaluru- 562 106

Biography:

I, Dr. Y. Vijayakumar currently working as Principal at Sri Sairam College of Engineering, Sai Leo Nagar, Anekal, Bengaluru, graduated in Mechanical Engineering in the year 1984 from Sri Venkateswara University College of Engineering, S.V. University – Tirupati, A.P and subsequently acquired Masters Degree in Industrial Engineering from National Institute of Technology (NIT), Calicut (Kerala) and Ph. D in Industrial Engineering (OR & SQC) from Sri Krishna Devaraya University – A.P.

I also served various academic bodies like Governing Council, Academic Council, BOS & BOE etc., I have worked for one term as a **Member** of the **SECTION MANAGING COMMITTEE** of ISTE - Karnataka Section for the term 2012 - 2014. I have been awarded "**BEST EDUCATIONIST"** and a **CERTIFICATE OF EDUCATION EXCELLENCE** by International Institute of Education & Management, Delhi" during 2012 and **LIFE TIME ACHIEVEMENT AWARD for contribution to Industrial Engineering by VENUS Foundation**

I have 05 Years of Industrial experience at M/s Rashtriya Chemicals & Fertilizers Ltd., Mumbai & M/s Reliance Industries Ltd., Mumbai and 26 years of teaching experience in both teaching UG and PG. **Seven** Research scholars have acquired Ph. D under my supervision at Visvesvaraya Technological University (VTU), Jawaharlal Nehru Technological University (JNTU) and Dr. M G R University (2 each); and one from JAIN University. **One** Scholar has acquired M S Engg in the area of Mechanical Engineering from VTU. **Three** Scholars are going to submit the thesis for the Ph. D at **JNTU & JAIN University** and **One** Scholar has submitted the thesis for M. Phil degree at S V University. During 26 years of Teaching, Research and Consultancy experience, published more than 31 research papers in referred journals at International & National level and presented 29 papers at various conferences.

Conducted several sponsored workshops and conferences under the banner of AICTE, ISTE, DST & EDI. I have completed **THREE** research projects with the financial support of AICTE & VTU. I am a member of professional bodies such as ISTE, IET, SAE, IIPE etc., I have given several programs in the TV Channels. Consistently my Institution is ranked in top 10 institutions in Bangalore. Encouraging and motivating the students and colleagues to do innovative things for the robust growth of the Institution is the key mantra for the success of my career.

DR. Y VIJAYA KUMAR

Prof.P.C.Srikanth
Professor and Head Dept. of ECE, Malnad College of Engineering, Hassan, Karnataka, India

Biography:

Dr. P. C. SRIKANTH had his schooling in the same town and graduated in Electronics & Communication Engineering in 1987 from Malnad College of Engineering, Hassan,Karnataka,India securing a first class with Distinction. Dr. P. C. SRIKANTH completed his M.Tech. degree in 1996 from Indian Institute of Technology, Kanpur in the area of LASERS, and obtained his Ph.D. from VTU Belgaum . He worked in the applied photonic lab IISc, Bangalore during his PhD. Starting as a Lecturer 1987, he became Assistant Professor In 1999, Professor in 2011 in Malnad College of Engineering, Hassan,Karnataka,India. Dr. P. C. SRIKANTH had a deep involvement in Optical networks, was awarded as **TOP 100 ENGINEERS-2011** by International Biographical Centre, St Thomas' Place,ELY,CB7 4GG Great Britain. He was Selected for Marquis Who's Who in Science and Engineering 2011-2012 (11th Edition), and also in 2016-2017 (12th Edition) New Providence, NJ 07974,USA . He received Best paper award for the following papers , Modeling of Photonic Crystal Ring Resonator Temperature Sensor during 2014, A Novel Quantum Dot Automata Based Design For Multiplexers during 2015 and Detection of Fluoride Contaminated Water in Dental Applications during 2015 at International Conferences. He has been Awarded as **Outstanding Scientist** in the field of Photonics , by Venus International foundation CARD , on 19th Dec 2015 . His Research areas includes ,Optical Communication and Networks, Photonic Band gap Crystals, Wireless Networks, LASERS and Quantum Electronics. He has Guided/guiding more than 100 BE ,M.Tech and Ph.d students. Dr. P. C. SRIKANTH has so far published more than 100 papers in national and international journals and conferences. He has attended many international conferences in India and Abroad and has chaired many technical sessions. He has organized many international conferences and workshops. He has also given many Key note and Invited talks in international conferences and workshops.Awards and laurels won by Dr. P. C. SRIKANTH run into volumes. So far he has received 12 awards. Dr. P. C. SRIKANTH is Senior Member IEEE (USA), Life Member ISTE, Currently he is secretary IEEE Photonic society, Karnataka Chapter Bangalore.

PROF.P.C.SRIKANTH

Dr. G. Prabhakar

- M.Tech., Ph.D in Chemical Engineering
- Joined S V University in February,1983
- 33 years of Teaching & Research Experience
- Areas of Interest - Bioconversions, Bioseparations and Chemical Thermodynamics
- 3 doctoral thesis and 35 M.Tech dissertations supervised
- 3 doctoral works underway
- Executed 2 Major Research Projects , funded by UGC
- Conducted 4 National Conferences
- Published 30 technical papers in National /International Journals
- HOD of Chemical Engineering for 7 years
- Chairman, Board of Studies in Chemical Engineering, SVU
- Member of Boards of Studies of different Universities
- Special Officer (HR) of SVU for 1 year
- Member of Several Committees of College, University & AICTE

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IFERP
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ABSTRACTS

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Siddharth Institute of Engineering and Technology (SIETK)
and
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International Conference on
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Puttur, 18th - 19th August 2016

Design and Implementation of TCSC Controller for Power Flow Enhancement

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Abstract: **--** In the present day scenario, transmission systems are becoming more insecure with unscheduled power flows. The transmission and distribution losses are increasing day by day because of high demand. However, many high voltage transmission systems are operating below their thermal ratings due to constraints, such as voltage and stability limits. This leads to reduction of life of transmission lines and is less economical. The power flow through the transmission network is mainly limited due to line impedance and load angle of the generator. To control the real power flow through any transmission line it is needed to control the impedance of the line or load angle. This control can be achieved by Flexible Alternating Current Transmission System (FACTS) device. In this paper, Thermistor Controlled Series Capacitor is used to compensate the line reactance of transmission line and look up table based TCSC controller is proposed for power flow control. The design and hardware implementation of TCSC control is discussed in this paper. The system stability is analyzed with and without TCSC Controller. It can be achieved by introducing TCSC through a transmission line. The effective impedance of the transmission line is changed by giving series compensation to the transmission line, thus compensating line reactance. This system is tested in laboratory set up for open loop and closed loop control under different operating conditions.

Index Terms— FACTS, power system stability enhancement, TCSC

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De-Noising Of Degraded Document Image Using Adaptive and Otsu Thresholding Techniques

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[1] B.Tech,(M.Tech) Communication and Signal Processing
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Abstract: -- Segmentation of text from badly degraded document an image is a very challenging task due to the high inters/intra variation between the document background and the foreground text of different document images. In this project, we propose a novel document image binarization technique that addresses these issues by using adaptive image contrast. The adaptive image contrast is a combination of the local image contrast and the local image gradient that is tolerant to text and background variation caused by different types of document degradations.

In the proposed technique, an adaptive contrast map is first constructed for an input degraded document image. The contrast map is then binarized and combined with Canny's edge map to identify the text stroke edge pixels. The document text is further segmented by a local threshold that is estimated based on the intensities of detected text stroke edge pixels within a local window. The proposed method is simple, robust, and involves minimum parameter tuning.

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Cooling of Led Bulb by Using Different Array of Fins

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Abstract: -- The demand for high light output LED systems lead to significant heat generation rates, so that higher heat fluxes result in elevated junction temperatures on LED chips in SSL lighting systems. Moreover, the changes on the junction temperature strongly impact the reliability, lifetime, light output and quality of the light. Because of their implicity, reliability, low cost and silent operation, passive air-cooling systems are preferred in LED lamps. Thus, the optimization of the heat sink in an LED system is crucial..A-line LED lamps are investigated and a number of FOMs are proposed based on the performance, size and weight. There for we are studied with various shape of fin array such as Rectangular, Square, Circular, Spine and Plus Sign Shape fin. On comparison, plus sign fin array gives the greatest heat transfer than that of other extensions having the different shape of fin array with same height and base area finned surface .The efficiency of fin with plus sign fin greater as compare to other patter of fin. The temperature of a plus sign fin is minimum i.e. 47.476 ^{0}c

Key words: array, convective heat, LED bulb, temperature, heat flux

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A Smart and Secured IoT Gateway Framework

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Abstract: **--** Internet of Things (IoT) is an emerging technology where things of everyday objects can be connected to Internet. In IoT technology devices are supposed to be deployed 'everywhere' and to be accessed 'any time' from 'anywhere'. In this network gateways would have an important role for connecting heterogeneous networks to internet. The IoT Gateways must be smart enough to perform collected operations depending on the thing application. The significant actions of IoT Gateway are integration of wireless sensor network and mobile network, protocol mapping, managing the endpoint network, providing secure and safe communication between various end point networks. Here we are proposing a smart and secured framework of IoT Gateway using Raspberry Pi . This proposal makes the IoT Gateway as a smart thing just like other smart things in IoT technology. Apart from native Gateway functionalities this paper emphasize the security of IoT Gateway, since the present IoT Gateways are venerable to attacks. The Raspberry Pi board which is meant for IoT having some precautionary measures for security In this paper we proposed those measures to provide security for IoT Gateways. Compared to the other smart Gateways the proposed Gateway is flexible, cost effective and provides security. And we implemented an architecture of smart irrigation system using our Gateway Pi.

Index Terms:—IoT (Internet of Things), Gateway, Raspberry Pi, Security

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Smart Bus Monitoring and Controlling By Using GSM

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Abstract: -- The main objective of this project is to control the accidents. Here in this project the system consists of five modules namely seat belt sensor (IR), alcohol sensor, vibration sensor, IR sensor and GSM modem. The seat belt sensor (IR) is combined with an ignition locking switch, which disables the starting mechanism of the bus unless the driver wears the seat belt. The alcohol sensor is used in breath analyser unit, which is used to sense whether the driver consumed alcohol or not, if he consumes alcohol the controller directly send the alert message to the owner through GSM modem and automatically buzzer will be ON. IR sensors are used for counting the person boards or leaves from the bus. Vibration sensor is used to detect the accident occurred or not, suppose if any accident occurred the ARM controller send message to the bus owner as "Accident occurred, no of persons inside the bus=00" through GSM modem. If the driver gets the incoming call while he is in driving then GSM modem of our project used to send the message to specific received call as "that the person you are trying call is in driving" . By using all these applications we can provide the safe journey.

Keywords: ARM (LPC2148), LCD, Alcoholsensor, Vibration sensor, IR sensor, GSM

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RFID Based System for School Children Attendance Bus Transportation Safety Enhancement Using ZIGBEE

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Abstract: -- A system to monitor pick-up/drop-down of school children to enhance the safety of children during the daily transportation from and to school. The aim of this project is to implement the RFID based for school children attendance transportation safety enhancement. The purpose of this project is to provide safety of children's during the daily transportation from and to school. The advanced system makes good use of new technology that is based on arm7, RFID and ZIGBEE technology. The system consisting of two units, a bus unit and school unit. The bus unit acts as a transmitter and school unit acts as a receiver. These two units communicate by using ZIGBEE. The bus unit is used to detect when a children enter or leave the bus and display on the LCD. The information is send to the school unit. That unit identifies whether the children enter or leave from the bus and send an alert message accordingly. The school unit which receive the information about children to authorised persons by using GSM technology. In this project we proposed the system is promising for daily transportation safety.

Keywords:-- ZIGBEE, RFID, GSM, Safety enhancement

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The Role and Importance of Search Engine and Search Engine Optimization

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Abstract: -- Search Engines are basically designed for searching the relevant content. Search Engine Optimization is collection of techniques and practices by which any website can increase ranking in search engine. Search Engine Optimization is divided into two parts, first one is on page and second one is off page. This paper describes the role, importance and working of search engine. And also describe about the concept and overview of search engine optimization and its types.

Keywords:-- Crawler, Search Engine, SEO, Website.

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Design and Implementation of Wireless Notice Board Using Wi-Fi

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Abstract: -- The project is too designed by using ARM-LPC2148 interfaced with LCD display. At present, when information has to be up dated in a notice board, it has to be done manually. The main objective of this project is to introduce the developed wireless notice board on displays messages sent from the user by using Wi-Fi, notice board is a primary thing in any institution /organization or public utility places like bus stations, railway stations and parks. But sticking various notices day-to-day is a difficult process. The notice board is a common display for effective mode of providing information to the people, but this is easy for updating the messages instantly. This system is enhanced to display the latest information through an Android application of smart phone or tablet by using messages.

Keywords-- ARM (LPC2148), LCD, Wi-Fi Module, Android mobile

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Image Fusion with Adaptive- Guided Filtering

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Abstract: -- A quick and effective image fusion technique is proposed for creating a noticeably informative fused photograph thru merging a couple of photos. The proposed method is to evaluate the categories of wavelets utilized in photograph fusion and to improve the fusion technique by using integrating with Guided filtering method. The results are comparing visually and statistically display that Guided-filtering method can improve the fusion effects, reduces the ringing results to some extents and entire image smoother. Evaluation of the very last consequences is affected by the kinds of wavelets orthogonal, Bi-orthogonal, un-decimated orthogonal and un- decimated Bi-orthogonal tiers.

Key words: Image fusion, Guided filter, Wavelet transforms analysis, Orthogonal, Bi- orthogonal.

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RFID Based Student Bus Fee Status Checking At Real Time Using Zigbee

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Abstract: -- An advanced ARM based student bus fee status checking at real time using ZIGBEE and RFID technology is designed and implemented for monitoring the student's bus fee status details for school/college management requirement. The advanced system makes good use of new technology that is based on ARM7, RFID and ZIGBEE technologies. The proposed system consists of two main units; administration unit and bus unit. The administration unit acts as a transmitter and used to send the student fee status to the bus unit. The bus unit acts as a receiver and used to display the student bus fee status on the LCD at real time. The proposed system is placed inside the vehicle. And communication between the proposed system and administration server can be done using ZIGBEE technology. When student enters the bus RFID reader reads the card details and displays student bus fee status on LCD.

Keywords- ARM, ZIGBEE, RFID

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Design and Implementation of Serial Protocol Convertor/Translator on FPGA

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Abstract: -- In the world of multiple application based product it is very much a mandatory to have multiple devices connected to a system, this includes peripherals following different communication protocols as well. These requirements give rise to the need for an intermediate system which can act as a bridge between two devices following different communication protocols. Today a system is connected to a number of devices and makes the communication smooth and fast. Communication protocols such as I2C, SPI and UART protocols are commonly used protocols. The PC, ADC and DAC will require an interface for communication between them. It is used to minimize system-level interconnect. FPGA is mainly uses serial communication to communicate with peripherals. Therefore serial communication plays vital role in embedded system design. In this paper we focus on the implementation of protocol converter to convert standard protocol of one device to the protocol of other device [SPI, UART, and I2C].The proposed work simulated by using VHDL code in Xilinx 14.7i and implemented on Spartan 3E FPGA.

Keywords: -- Protocols, Bluetooth module, FPGA Kit, Android mobile phone.

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CFD Analysis of a Turbulent Jet Flow

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Abstract: -- The Turbulent jets are stumbling upon in industrial apparatus, combustion chambers and different types of mixers. The co-Axial turbulent jets can create a complex flow with an outer jet developing under asymmetric conditions by considering high jet velocities for both core and annular jets. The main objective is to increase the penetration length of the nozzle by modify or designing the outlet shape of the jet. The external and internal nozzle area ratio was varied as well as velocity issuing from the two nozzles. In all these cases the calculations of turbulence intensities, shear stresses distribution of the average velocities .The state of flow field and the state of approach to a self-preserving condition is analyzed. In order to improve the Thrust efficiency the Reynolds numbers based on various shapes of nozzles outlet such as Circle and square with and without annular was determined and studied by using CFD software.

Keywords: - Turbulence, co-Axial, Reynolds number, Annular, CFD software

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Development of Conceptual Framework for Idle Construction Equipment Impact Assessment on Infrastructure Projects

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Abstract: -- A well-developed infrastructure is a foundation for growth in any country. Infrastructure provides the basic support system for other sectors of the economy expanding capabilities everywhere. Indian Infrastructure sector is going through revolutionary phase, as USD 1 trillion investment planned in 12th five year plan, according Planning Commission – Government of India. The role of construction equipment is very important to face challenges of 21st century India's infrastructure development.
The research paper intended to investigate the equipment management practices in Indian construction Industry. As procurement of major construction cost 36 percent of total construction project cost. Hence effective equipment management plays important role in infrastructure project management. In this research paper, we have analyzed causes and impact of idle construction equipment on infrastructure project. We have prepared a questionnaire and conducted survey on various infrastructure project. Major finding of the research is that, many time equipment are idle due to breakdown and work front unavailability. Based on survey result, we have prepared a conceptual framework for idle construction equipment impact assessment on Infrastructure project. Tools such as critical path method, float and sharing of resources discussed to mitigate impact of effect idle construction equipment on infrastructure project.

This research is of value for better understanding practices and problems relating to equipment management at infrastructure project. The study also highlights the practices that can reduce idle time construction equipment,

Key words **—** Construction equipment, equipment management and infrastructure project management

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Real Time Attendance System by Using Matlab

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Abstract: -- Being one of the most successful applications of the image processing, face recognition has a vital role in technical field especially in the field of security purpose. Human face recognition is an important field for verification purpose especially in the case of student's attendance. This paper is aimed at implementing a digitized system for attendance recording. Current attendance marking methods are monotonous & time consuming. Manually recorded attendance can be easily manipulated in XL sheet. Hence the paper is proposed to tackle all these issues.

Key words: image processing, face recognition, principle component analysis (PCA).

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Detection and Correction of Multiple Bit Errors in SRAM Based FPGA Frame

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Abstract: -- Recent studies suggest that multiple bit upsets (MBUs) are a significant part of the error events in advanced memory technologies and that they will continue to grow in the next technology nodes. The errors in an MBU are normally caused by the same physical event and therefore affect memory cells that are close together. Existing techniques employ error correction codes with considerably high overhead to mitigate MBUs in configuration frames. In this paper, we present a low-cost error-detection code to detect MBUs in configuration frames as well as a generic scrubbing scheme to reconstruct the erroneous configuration frame based on the concept of erasure codes. The proposed scheme does not require any modification to the FPGA architecture. Implementation of the proposed scheme on a Xilinx Virtex-6 FPGA device shows that the proposed scheme can detect 100% of MBUs in the configuration frames with only 3.3% resource occupation occupation, while the recovery time is comparable with the previous schemes.

Index Terms— FPGA, Multiple bits upsets, Reliability, Soft errors

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A Novel Method for Color Image Enhancement Applied to Bio-Medical Images

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Abstract: -- A novel approach for biomedical colour image enhancement method is proposed in this paper by using mathematical analysis of dual tree complex wavelet transform. The doctor requires the enhanced medical images to give better diagnosis. The contrast of biomedical colour images can be improved by data directionality of dual tree complex wavelet transform. The reduction in noise can be done by using wavelet coefficient shrinkage. In this paper we reduced noise present in both enhanced and non-enhanced medical colour images. We have taken the tumour image and computed the PSNR and SSIM of both enhanced image and proposed method by applying Gaussian noise, Poisson noise and speckle noise.

Key words: dual tree complex wavelet transform, medical images, image enhancement, contrast, de-nosing.

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Design and Implementation of Greenhouse Parameters Monitoring and Controlling System

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Abstract: -- This paper proposes a new approach towards the monitoring and controlling of Greenhouse environment which is based on GSM technology. Microcontroller reads the value of sensor periodically and transmits the sensed data from monitoring node to sink node via GSM module. This proposed system is implemented using ARM7, Sensors (Humidity sensor, temperature sensor, gas sensor), GSM modem. If any of the Greenhouse parameters exceeds the threshold value set by the user, necessary control action will takes place automatically. Also alert will be provided to the user through GSM module. The controlling action will takes place with the help of fan, motor. If the Greenhouse parameter falls below the threshold value, the controllers will be turned off automatically.

***Keywords*—**GSM, ARM7, Temperature, Humidity, Gas

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Performance and Emission Characteristics of CI Engine by varying Pistons Fuelled with Pongamia Biodiesel and Zinc Oxide Nano Fluid as Additive

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Abstract: -- The main reason for the investigation of usage of alternate fuels in internal combustion engines was due to rapid increase in urbanization, usage of automobiles leads to the depletion of petroleum products, increase in emission of exhaust gases has increased. The emissions coming from engines cause severe harm to environment. So to overcome this problem government had lay down strict regulations to the engine manufacturers and consumers to follow emission norms. In this regard, alternate fuels came into existence after various investigations of many researchers. The various alternate fuels derived from plants and vegetables are such as pongamia, jatropha, soybean, mahua oil, rice bran oil, palm, neem etc. considered as potential alternatives for heavy vehicles. The direct usage of vegetable oil in diesel engine is restricted because of their high viscosity, poor atomization, incomplete combustion and carbon deposition on the fuel injectors. The viscosity of vegetable oil reduced by the process of transesterification by converting vegetable oil into methyl ester or ethyl ester known as biodiesel. The objective of this paper is comparision of performance and emissions of diesel engine with diesel and blending of biodiesel by using nano fluid as additive. In this study the comparison of performance and emission characteristics of internal combustion engine of different pistons with provision of different shapes of grooves on the piston crown. Experimental work has done on single cylinder diesel engine with blending of pongamia biodiesel with diesel and by using nano fluid at different proportions as additive which it is used for improving the engine performance.Further calculating the performance and emissions like CO, NOx, HC of single cylinder engine with pongamia biodiesel as a fuel by varying pistons and by varying nano fluid proportion.

Keywords— Diesel, Pongamia biodiesel, Zinc Oxide, Different pistons, Performance, and Emissions

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A Study on Different Challenges and Features in VANET

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***Abstract:* --** Vehicular Ad hoc Network (VANET) provides the communication in distributed dynamic environment. Security is the primary issue for any network model. The main purpose of adopting VANET technology is to increase safety and efficiency on roads. The hybrid nature of network exists at multiple levels and different aspects. In this paper, some of major issues in this dynamic network is identified. The network is divided in different communication policies and for each policy, the security threats are identified separately and described in this work. The paper has defined the security attacks with different communication forms are discussed in this paper.

***Keywords*—** VANET, Security, Intelligent Transportation System, Reliability, Policies

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A Mathematical Model of Fluid Flows in Open Rectangular and Triangular Channels

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Abstract: -- Flow in a closed conduit is regarded as open channel flow, if it has a free surface. This study considers the flows of an incompressible Newtonian fluid through open rectangular and triangular channels. The effects of channel slope, energy coefficient, channel top-width and roughness coefficient on velocity distribution in the open rectangular and triangular channels are investigated. The governing equations of the flows are continuity and momentum equations. The finite difference approximation method is used to solve the governing equations because of its accuracy, stability and convergence and the results are represented graphically. It is found out that the velocity of flow increases as depth increases and an increase in the channel slope, energy coefficient and top-width leads to an increase in flow velocity whereas increase in roughness coefficient leads to a decrease in flow velocity for both rectangular and triangular channels. This study goes a long way in controlling floods, construction of channels and in irrigation.

Key words: Open channel, newtonian fluid, velocity, depth, finite difference

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Power Saving In Street Lighting System Based On Motion Detection

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Abstract: -- In this paper the power saving in street lighting system has been implemented based on motion detection. It helps to reduce the redundant power utilization appropriate to more illumination in natural light. By using RTC (Real-Time-Clock) it generates the timer automatically as given as based on timing conditions. With the help of PIR sensor the presence of a human being or any obstacle detected by using the presence detector, then the street lights will be switch "ON" mode. When a person on any obstacle comes in the detection range else it will be automatically "dimmer mode". The designed system keeps away from the person intrusion in power board. At last, it displays the exact demand for payment information on LCD and data can be received by authorized person with the help of GSM module. The entire procedure can be controlled and maintained by ARM 7 (LPC2148) microcontroller.

Key Words-- RTC (Real-Time-Clock), PIR Sensor, LCD, Relay, GSM.

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Star Configuration Based Control Method for Transformer Less H-Bridge Cascaded Statcom

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Abstract: -- This paper presents a transformer less static synchronous compensator (STATCOM) system based on multilevel H-bridge converter with star configuration. This proposed control method devotes themselves not only to the current loop control but also to the dc capacitor voltage control. With regards to the current loop control, a nonlinear controller based on the passivity-based control (PBC) theory is used in this cascaded structure STATCOM for the first time. As to the dc capacitor voltage control, overall voltage control is realized by adopting a proportional resonant controller. Clustered balancing control is obtained by using an active disturbances rejection controller. Individual balancing control is achieved by shifting the modulation wave vertically which can be easily implemented in a field-programmable gate array. Two actual H-bridge cascaded STATCOMs rated at 10 kV 2 MVA are constructed and a series of verification tests are executed. The experimental results prove that H-bridge cascaded STATCOM with the proposed control methods has excellent dynamic performance and strong robustness. The dc capacitor voltage can be maintained at the given value effectively.

Index Terms—Active disturbances rejection controller (ADRC), H-bridge cascaded, passivity-based control (PBC), proportional resonant (PR) controller, shifting modulation wave, static synchronous compensator (STATCOM)

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Design and Realization of Low Power Multiple Sensor Node & it's VLSI Implementation

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Abstract: -- The sensor intelligence has been emerged with a low power processor model. Sensor node within single chip has been developed and implemented on a high performance FPGA kit. This paper is for the purpose of designing a FPGA based data acquisition system, utilizing the high processing speed feature of FPGA The FPGA data acquisition module is designed by the VHDL and simulated by the ISE software. This system has the advantage of being a simple unit with low power consumption and being used to collect data from different sensors. In proposed System, FPGA can sense the maximum of 8 analog channel input from ADC. After conversion of analog to digital. No need to store the corresponding digital data with external memory. You can able to store the digital data in FPGA embedded RAM itself and also the Stored digital data in Xilinx Platform PROM (XCF01S).So that digital data is not erased, until again reprogramming the FPGA ic. The prototype is implemented in SPARTAN-3E FPGA board and coding used is VHDL.

Keywords:- analog to digital conversion, data acquisition, sensors, FPGA.

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Vehicle To Vehicle Safety Device – An Ease for Safe Driving and Theft Control

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Abstract: -- Human life is more valuable than anything else, timely help is more important than lending a helping hand. The proposed system is basically on an electronic device which can be used at the time of emergency while driving a vehicle. It has embedded the concept of wireless communication i.e. ZIGBEE and GSM and many other sensors by the help of which immediate help can be delivered to the person who has met with an accident and need help it. Research content uses the technology of ZIGBEE for the transmission of message to the other vehicle in the time of need of their help as well as for serving the prospective of safe and sound driving the functions like drivers alcohol detection, then vehicle speed slowing and automatic vehicle lock with collision detection is used at the same time send message to owner mobile number. I.e. Vehicle doesn't meet with in accident but human life is safe so there are no needed emergency medical facilities. The GSM technology is used to send the position of the vehicle as a SMS to those numbers and the position of the vehicle can be obtained by the owner of the vehicle. When vehicle reaches speed limit Jones like schools, hospital and crowed places, vehicle get alert through Zigbee so that speed of vehicle can be decreases. The overall structure is controlled based on the ARM7 (LPC2148) microcontroller.

Key Words: ARM7, ZIGBEE, GSM, sensors

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A survey on Routing Protocols and QoS in Mobile Ad Hoc Networks (MANETs)

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Abstract: -- MANETs have massive potential in several fields of multimedia. Infrastructure-free, self-configuring, mobility and scalability are the significant reasons for this attractiveness. Multicasting Communication is the finest communication procedure for supporting multimedia applications. In large-scale networks, Multicast Routing faces some problems and challenges that need to be informed. These challenges included dynamic MANETs topology, multicast packet forwarding, routing overhead, and scalability. Such applications must provide Quality of Service (QoS): with intent to improve bandwidth, delay, jitter and energy consumption. The key objective of any MANET routing protocols is to meet these challenges. Therefore, it becomes an important parameter for MANETs to have a proficient routing and QoS mechanisms to support these applications. Some of the QoS routing protocols with various features have been proposed newly. The designing of these routing protocols is a challenging task due to the mobility and dynamic nature of the Mobile Ad-hoc Networks. This paper shows a thorough overview of some of the QoS routing protocols along with their merits and demerits. A comparative survey is done on QoS and routing protocols. Also, a thorough investigation has been carried out on the current issues and feature challenges that are involved in the field of MANETs.

Key words: MANETs, QoS, Multicast Routing, Scalability, Security

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Dynamic Power Reduction of LFSR with Clock Gating Technology

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Abstract: -- A modified Linear Feedback Shift Register is designed in which power consumption reduction by deactivating the clock signal to Flip Flop when the output signal is same as input signal. The power consumption of the new LFSR is reduced due to the reduced switching of Flip Flop. To verify, the maximum, minimum and average. Dynamic power management (DPM) is a design methodology for dynamically reconfiguring systems to provide the requested services and performance levels with a minimum number of active components or a minimum load on such components. DPM encompasses a set of techniques that achieves energy-efficient computation by selectively turning off (or reducing the performance of) system components when they are idle (or partially unexploited). In this paper, we survey several approaches to system-level dynamic power management. We first describe how systems employ power-manageable components and how the use of dynamic reconfiguration can impact the overall power consumption. We then analyze DPM implementation issues in electronic systems, and we survey recent initiatives in standardizing the hardware/software interface to enable software-controlled power management of hardware components.

Key words:--LFSR optimization, low power, test pattern

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Wi-Fi Based Smart Home Automation Using Android Application

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Abstract: -- In the recent years drastic changes were occurred in the mobile communications and embedded systems. Now we incorporate mobile technology in automation systems. We propose a mobile based home automation system that consists of a mobile phone with android capabilities and a home wi-fi connection. The home appliances are controlled by the android application through wi-fi which operates according to the user commands received from the mobile phone via the wi-fi modem. In the proposed system the home wi-fi is built upon the graphical user interface through the smart phone android application and a micro controller, allowing a user to control and monitor any variables related to the home by using any android capable cell phone. The design and implementation of modem driver, text based command processing software and power failure resilient output of a micro controller to facilitate in sending and receiving data via the cell module together with the design of android application to enable the cell phone to send commands and receive the status of home appliances. Now we can control home appliances on our figures with long distance range. So that it provide time saving, power saving, alerts etc. And, also you can just imagine how simple would it be to implement such a system in your home that too at a very reasonable cost by using cost-effective devices.

Key Words---- Wi-Fi, Android Application, Relays, Buzzer, Embedded C, Keil Software, ARM7 Microcontroller Temperature Sensor, LPG and IR Sensor.

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Design of Sequential Adder by Using Multi Bit Flip Flop for Power Reduction Technique

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Abstract: -- In VLSI design the power consumption is increased for more transition memory elements. Flip-flop (FF) are the basic sequential components used for memory applications. An adder and multiplier are designed using Multi-Bit Flip-Flop (MBFF). In the proposed work one of the promising ways to improve performance of FF is merging of clock pulse. Operating memory arrays with less clock cycle will reduce the power taken by the FF which leads to total power reduction and maximum internal delay can also be reduced. Besides, reducing number of FF in the circuit design the total wire length reduces the complexity of MBFF. For dynamic storage the required number of FF selected by transformation check method. Transformation check method can be effectively enabled by dynamic combinational block with check task in the proposed work.

Key words:- Power reduction, MBFF, Merging, Synthesis for low power, Wire length, Transformation check method.

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Performance Analysis of High Precision Position Controlled Switched Reluctance Motor Drive

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Abstract: -- The aim of this paper is to investigate the problem of high-precision position control in Switched Reluctance Motor (SRM) drives. Proportional-differential (PD) controller and Advanced gain scheduling proportional-integral (PI) controllers are adopted for position and speed controls, respectively. The control scheme used for the SRM drive operates over a wide speed range and supports the four quadrant operation and also provides low torque ripple at an acceptable level. The proposed four quadrant control scheme is based on the average torque control method. Low torque ripple is achieved by controlling the turn-on and turn-off angles through simple formulas so as to minimize the pulsations of the torque at the commutation intervals. The fine tuned PI controller parameters are online determined according to the load torque and speed of the rotor. In order to provide precise position control, a gain scheduling technique is adopted in the speed control design. A low-pass filter is included in the position controller to improve the set-point tracking and to prevent the impulse of the control signal. The SRM drive is designed and implemented in MATLAB/Simulink environment at different rotor positions and several simulation results are presented to validate the feasibility of the proposed control scheme.

Index terms—Current control, four quadrant operation, PI controller, position control, switched reluctance motor (SRM) drives, torque control, variable speed drives.

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Implementation of Ternary Logic Gate

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Abstract: -- A ternary logic system was first proposed by the polish mathematician Jan Lukasiewicz, in 1920.The ternary circuits developed are shown to have some significant advantages relative to other known binary circuits like low power dissipation, and reduced propagation delay and component count. Nevertheless, the associated reduction in the word length in the case of the ternary circuits tends to alleviate to a large extent the pin limitation problem associated with VLSI implementation. In this paper the basic gate implementation is considered and the power requirements for different methods of realization were studied.

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Information and Assistive System for Blind People Using Image Processing and RFID Technology

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Abstract: -- We proposed a camera based assistive system framework to help blind persons for reading text-labels and the product packaging from hand-held objects in their daily life and blind navigation assist system to get direction using text to speech conversion to show direction in the camera view we first find propose a efficient and effective motion based method to define region of interest (ROI). In extracted ROI, the text localization and recognition are conducted to acquire text information. Text characters are in the localized text regions are binaries and recognized by off shelf optical character recognition software's.

The scene capture component collects the scenes containing the objects of interest in the form of images /video, it corresponds to a camera attached to air of sun glasses . The live is captured by using web cam. The image format from the webcam is in format. The frames from the video segregated and undergone to the pre processing. The data processing component is used for deploying our proposed algorithms, including.

Keywords **---** assistive, blindness, text region localization, distribution of edge pixels, hand-held objects, optical character recognition (OCR), text reading, stroke orientation

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Effect of Turbulence Model and Wind Velocity on Aerodynamic Performance of Wind Turbine Blade

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Abstract: -- Present paper reports, effect of turbulence model and wind velocity on aerodynamic performance of an airfoil, NERL S809. The computational simulations are done by using RANS steady equations. Among four turbulence model (standard k–ε, Spalart–Allmaras, k–ω and k–ω SST) the best model has been selected on the basis of comparison with experimental results from available literature. The pressure coefficient, drag coefficient and lift coefficient are compared at different angle of attack, wind velocity using different solver. This computational simulation is carried out using Ansys-Fluent (14.0) software. The accurate aerodynamic load acting on blade of wind turbine is obtained by using, k–ω SST turbulence model for unsteady flow behavior.

Index Terms— Flow over an airfoil, wind velocity, pressure coefficient, Angle of attack, CFD analysis.

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Fuzzy Based PFC Buck Half-Bridge Converter for Voltage Controlled Adjustable Speed PMBLDC Motor

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Abstract: -- This paper deals with the method used to improve the speed quality and the efficiency of BLDC motor drive by implementing fuzzy based controller with power factor modification technique. A Buck Half-Bridge DC -DC converter is used as a single-stage power-factor-correction converter for a permanent magnet brushless dc motor (PMBLDCM) fed all the way through diode bridge rectifier from a single-phase ac mains. This reduced the power quality problems and improves the power factor at input ac mains. A three-phase voltage-source inverter is used as an electronic commutates which switches the PMBLDCM drive. The concept of voltage control at the dc link comparative to the desired speed of the PMBLDCM is used to control the speed of the compressor. The stator current of the PMBLDCM during step change of the reference speed is controlled within the specified limits by an addition of a rate limiter in the reference DC link voltage. The proposed power factor converter topology is designed, modeled and its performance is evaluated in Matlab-Simulink environment for an air conditioner driven through a PMBLDC motor. The results illustrate an improved power quality and good power factor in wide speed range of the drive.

Key Words:-- Air-conditioner (Air-Cons), CUK converter, power factor (PF) correction (PFC), permanent-magnet (PM) Brushless dc motor (PMBLDCM), voltage-source inverter (VSI), Fuzzy controller**..**

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Classification of Intrusion Detection System and its Methodologies

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Abstract: -- The process of monitoring the network traffic within a host or on a network and detecting any unwanted or malicious traffic that might have crept in, is known as Intrusion Detection. An IDS may either be a piece of software or hardware appliance that keeps an eye on real-time network traffic so as to ascertain unwanted activities and occurrences such as illegal and vicious traffic, traffic that breaches established security policy, and traffic that violates passable use policies. This paper aims at delivering i) a general concept of types of IDS, pros and cons of the various available IDS ii) a description of different features of the IDS and IPS iii)attacks on IDS and how to evade IDS exploiting various security loop-holes. An IPS is a type of IDS which usually logs activities and identifies malicious activity which is reported so as to enact necessary counter measures.

Index Terms— HIDS, IDS, IPS, NBA, NIDS

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Investigation for Emission and Thermal Analysis Loose Biomass Making Briquettes

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Abstract: -- The project is to develop the loose biomass waste to briquettes primarily to explore value of application avenues. The loose biomass waste composites to briquettes are developed in India on the basis of two strategy of preventing depletion of agricultural and forest wastages. Disposal of biomass wastes, produced in different agro-industrial activities, is normally an environmental problem. A key for such condition is the utilization of these residues for the production of energetic solid bio-fuel by increasing their proximate and ultimate properties of biomass. In this loose biomass raw material is Marigold(gillyflower), rose flower, lemon peels, orange peels, gigantean leaves, thorny leaves to briquettes based composites material with the addition of Synthetic adhesives binder have been developed substitutes for coal charcoal of briquettes & high density and comparison of wood. In this project the biomass wastages were fabricated by combining materials of moulding box in copped from hand lay method. A synthetic adhesive (INDOCOL-DLD) was used as the matrix material. The mechanical and thermal properties of these samples were investigated according to IS and ASTM standards. From the result it was observed that the comparison of biomass briquettes and wood with high calorific value and density and also very less carbon and sulphur emission. The biomass briquettes are equal amount of density and durability has been observed. Briquettes have much lower ash content.

Keywords: Characteristics, Bio-wastes, Ultimate analysis, proximate analysis, Briquettes.

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The Role of Fertilizer Subsidy to Farmers and Agriculture Production in India

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Abstract: -- Fertilizer subsidies play a vital role in the economy of a country. A country has various resources which are to be gainfully to farmers for the benefit of to population of whole country. Subsidies are provided to ensure equitable utilization of the resources for the people. The developed, developing and under developed nation have different kinds of fertilizer Subsidies. Developing countries provide subsidies to their population for improving standard of living the under developed countries provided subsidies for meeting their minimum need of the vast majority of population.

The Fertilizer subsidies grant of money from an outside third party to other buyers or the seller of the commodity. Subsidies allow a buyer to procure commodity or service at low price than would otherwise have been necessary. Similarly a business firm will not stay in operation unless revenue is sufficient to cover cost plus some return on investment. If revenue from buyer is insufficient subsidy from the outside agency keep the firm in operation.

The role of chemical fertilizer for increased agricultural production in particular in developing countries as a well established. Some argue that fertilizer was an important as seed in the green revolution contributing as much as 50 percent of the yield growth in Asian continent others have found that one third cereal production to use of fertilizer and related factors of production. (Rishi Muni Dwivedi -2006)

Key Words: -- Fertilizer, Subsidy consumption, Standard utilization, Resources gainfully minimum.

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Prediction of Black Gram Yield using Support Vector Machine

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Abstract: -- Two- third of population lives in rural areas and depends on agriculture for living. Through agriculture is known for its multifunctional success in providing food, employment, livelihood, etc, it is facing several problems in improving productivity. The key factors which influence agriculture are irrigation systems, weather conditions, soil properties, natural communities etc. Type of soils, type of seeds, type of pesticides and climatic conditions are crucial in deciding crop productivity. We conduct an experiment on black gram cultivation. Black gram prediction methodology is used to predict the suitable black gram by sensing various parameter of soil and also parameter related to atmosphere. Parameters like type of soil, PH, nitrogen, phosphate, potassium, organic carbon, calcium, magnesium, sulphur, manganese, copper, iron, depth, temperature, rainfall, humidity.

For analyzing yield of black, it is proposed to use the last 10 Years of Black Gram dataset. As a long term research, it is proposed to analyze the collected data using big data techniques. It is planned to establish Hadoop ecosystem where the data will be stored and processed. The outcome of analysis/research work would be to provide timely decision support for better farming. As part of research, in this paper, it is proposed to arrive at architecture for analyzing the yield of black gram using Support Vector Machine algorithm.

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Detection of Diseases in Sugarcane using Image Processing Techniques

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Abstract: -- The disease in sugarcane agriculture must be addressed quickly to ensure a high productivity. Detection of the disease manually by an expert requires substantial time and cost. Therefore an automated system for detection of the disease in sugarcane is required. This research work aims to develop a system which performs image segmentation automatically detects disease in the images of sugarcane leaves with novel methods namely Fuzzy C Means (FCM), Colour co-occurrence matrix, K means clustering, and Neural network. The result is further used in the process of disease detection as a reference to the precision agriculture system which requires early disease detection system. Image segmentation in the images of leaves of sugarcane consists of several phases, namely pre-processing, feature extraction, and segmentation. In this paper, the proposed model for detecting diseases in sugarcane leaves is presented.

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Performance of Di Diesel Engine With JATROPHA Biodiesel and Aluminum Oxide Nano Additive

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Abstract: -- The depleting of fossil fuels has simulated the worldwide search for the alternate fuels. AS our country is an agricultural based one and large amount of land is available, production of Jatropha biodiesel will be more advantageous for our farmers. The Jatropha biodiesel is a perfect replacement to diesel because this is derived from indigenous sources and is renewable. But due to its high viscosity and lower calorific value it cannot be directly used in the diesel engine without major modifications to the engine. Hence in the present work it is planned accordingly to use the combination of diesel and biodiesel in the ratio of 80% diesel and 20% Jatropha (B20). The combustion of the engine depends on the flow capability of the fuel. With the higher viscosity, Jatropha oil fluidity will be less and this can be improved with the addition of nano additives. Further the investigation is planned to study the effect of Aluminum Oxide Nano particles as additive on the performance and emission characteristics of Jatropha biodiesel blend(B20). It is blended with Aluminum Oxide Nano particle in mass fraction of 50 ppm,100 ppm and 150ppm.The whole investigation is carried out in a constant speed vertical cylinder water cooled DI Diesel Engine. The performance parameters are analyzed and the results are presented. Aluminum oxide nano particles act as an oxygen buffer which improves the combustion results inincrease the Brake thermal efficiency and reduction in the Exhaust emissions.

Keywords- Aluminum oxide, Jatropha Biodiesel blend, Nano additives.

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Performance of Two Stage Inverter Based Grid Connected Photovoltaic Power Plant under Grid Faults

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Abstract: -- Grid-connected distributed generation sources interfaced with voltage source inverters (VSIs) need to be disconnected from the grid under: 1) excessive dc-link voltage; 2) excessive ac currents; and 3) loss of grid-voltage synchronization. In this paper, the control of two-stage grid-connected VSIs in photovoltaic (PV) power plants is developed to address the issue of inverter disconnecting under various grid faults. Inverter control incorporates reactive power support in the case of voltage sags based on the grid codes' (GCs) requirements to ride-through the faults and support the grid voltages. A case study of a 1-MW system simulated in MATLAB/Simulink software is used to illustrate the proposed control. Problems that may occur during grid faults along with associated remedies are discussed. The results presented illustrate the capability of the system to ride-through different types of grid faults.

Keywords– DC–DC converter, fault-ride-through, photo- voltaic (PV) systems, power system faults, reactive power support.

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Triple-band Planar Monopole Antenna for WLAN/WiMAX Applications

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Abstract: -- A triple-band micro strip-fed printed monopole antenna is designed for Wireless Local Area Network (WLAN) and Worldwide Interoperability for Microwave Access (WiMAX). The proposed antenna consists of a rectangular radiating patch with slots and ground plane that enables proper adjusting of the resonant bands.

A parametric study on the lengths of the slots of the proposed antenna is provided to obtain the required operating frequency bands-namely, WLAN (2.4/5.2/5.8 GHz) and WiMAX (2.5/3.5/5.5 GHz).The proposed antenna can be an excellent choice for WLAN/WiMAX applications due to its small size, simple structure, good multiband characteristics, omni directional radiation pattern, VSWR and return loss are achieved over the operating bands.

Index Terms: -- Monopole antennas, Multiband antennas, Triple band antennas

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Distributed MPPT Connected With Cascade H-Bridge Multilevel PV Inverter for Grid Friendly Applications

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Abstract: -- This paper presents a modular cascaded H-bridge multilevel photovoltaic (PV) inverter for single- or three-phase grid-connected applications. The modular cascaded multilevel topology helps to improve the efficiency and flexibility of PV systems. To realize better utilization of PV modules and maximize the solar energy extraction, a distributed maximum power point tracking control scheme is applied to both single- and three-phase multilevel inverters, which allows independent control of each dc-link voltage. For three-phase grid-connected applications, PV mismatches may introduce unbalanced supplied power, leading to unbalanced grid current. To solve this issue, a control scheme with modulation compensation is also proposed. An experimental three-phase seven-level cascaded H-bridge inverter has been built utilizing nine H-bridge modules (three modules per phase). Each H-bridge module is connected to a 185-W solar panel. Simulation and experimental results are presented to verify the feasibility of the proposed approach.

Index Terms—Cascaded multilevel inverter, distributed maximum power point (MPP) tracking (MPPT), modular, modulation compensation, photovoltaic (PV).

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Effects of Labor Productivity on Manufacturing Performance and Turnover

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Abstract: **--** This paper discusses an approach based on artificial neural networks that enables an estimator to produce accurate labor production rates (labor/unit) for industrial construction tasks such as welding and pipe installation. The paper first reviews factors that were found to affect labor production rates on industrial construction tasks, current estimating practices and their limitations, and the process followed in collecting historical production rates. An artificial neural network is then described. the model is composed of a two-stage artificial neural network, which is used to predict an efficiency multiplier(an index) based on input factors identified by the user . The multiplier is then used to adjust an average production rate given in man-hours/unit for use on a specific project. Estimates of production rates from the new approach are compared to existing estimating practices and conclusions are presented there has been growing interest in the degree to which human resource systems contribute to organizational effectiveness, yet limited research attention has been paid to the contextual conditions that moderate the efficiency of these practices. In this study, examined how industry characteristics affect the relative importance and value of high performance work systems findings indicate that the impact of these human resources systems on productivity is influenced by industry capital intensity, growth, and differentiation.

Index Terms— Artificial neural network, efficiency multiplier, human resources systems, labor production rates.

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A DI-CI Engine Characteristics with Ethanol Blended Diesel

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Abstract: -- Ethanol as alternative fuel an experimental investigation was conducted. A four stroke, single cylinder DI-CI engine was used to investigate the engine performance and emission characteristics using ethanol- diesel blended fuel. The engine was tested at different loading conditions with ethanol-butanol-diesel percentage volume ratios of 10:5:85(E10B5D85), 15:5:80(E15B5D80) and 20:5:75(E20B5D75) in this experimental investigation. A 5% butanol was used in all blends to form stable mixture of ethanol and diesel. The test results show that it is feasible to use ethanol blended diesel with butanol to replace pure diesel as the fuel for diesel engine. The brake thermal efficiencies were comparable with that of the diesel for the test engine when fuelled by the ethanol blended diesel. Increase of brake specific fuel consumptions which is due to the lower heating value of ethanol were observed with blends. The emissions characteristics were also studied when fuelled by the blends, it is found that the carbon monoxide (CO) and hydro carbon (HC) were reduced when the engine ran at all loads, the nitrogen oxides (NO_X) emissions were increased for all blends at all loads.

Keywords: DI-CI Engine, Performance, Emission and Ethanol blend

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Implementation of Data Acquisition and Display Interface Unit For Ozonesonde

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Abstract: -- This paper presents a modified hardware implementation to measure and monitor the ozone at surface level using ozonesonde. This modified ozonesonde system consists of ECC ozonesonde, signal conditioning circuit, Microcontroller, Liquid crystal display (LCD) and an optional interface for data logging in PC. The Electrochemical Concentration Cell (ECC) sensor of ozonsonde produces weak electric current, which is directly proportional to the ozone concentration in the sampled air. Op amp 4376 is used as a current to voltage converter. Peripheral interface controller (PIC)16F616 microcontroller is used for analog to digital conversion of the amplified signal. The same controller is also used to data processing and displaying data on LCD. Further it is also programed to communicate with computer over RS 232. A computer program in Laboratory Virtual Instrument Engineering Work bench (LabVIEW) is developed for ozone data log.

Index Terms **—** Current to voltage converter, computer, LCD, ozonesonde, PIC microcontroller

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Multilevel STATCOM of Cascaded Two-Level Inverter for High-Power Applications

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Abstract: -- A simple static VAR compensating scheme using a cascaded two-level inverter-based multilevel inverter is proposed. The topology consists of two standard two-level inverters connected in cascade through open-end windings of a three-phase transformer. The dc-link voltages of the inverters are regulated at different levels to obtain four-level operation. The performance of the proposed scheme under balanced and unbalanced supply-voltage conditions. Further, stability behavior of the topology is investigated. The dynamic model is developed and transfer functions are derived. The system behavior is analyzed for various operating conditions

Index Terms— DC-link voltage balance, active power oscillation damping, flicker attenuation, multilevel inverter, power quality, static compensator (STATCOM).

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Design of soil condition management system in precision agriculture using Autonomous Wireless Sensing Nodes

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Abstract: -- Main reasons for the global water crisis besides population growth, urbanization, and climate change are excessive water use, poor management, and inadequate irrigation. According to the United Nations World Water Development Report, 70% of freshwater worldwide is used for irrigation. The amount of applied water does usually not match the requirements of the irrigated crop, and either too much or too little water is used for irrigation. To enhance the resource utilization in a constrained manner an autonomous sensing platform is developed, where a number of wireless sensor node sare installed in an agriculture land. We proposed a system with three wireless sensor nodes by the exploration of "mesh network" to cover large area. Wireless sensor nodes observes the environment, samples and collects the heterogeneous data like soil moisture, temperature, from the interested field and transmits data to the server. A wireless mesh network (WMN) is a communications network made up of radio nodes organized in a mesh topology. It is also a form of wireless ad hoc network. When one node can no longer operate, the rest of the nodes can still communicate with each other, directly or through one or more intermediate nodes by using ZigBee and data of that node is transmitted to main server.

Index Terms- ARM7 Processor, Soil sensor, Temperature sensor, Real-Time Database, Wireless sensor Nodes, GSM, Zigbee

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Thermal Analasis of Radiator with Different Nano Fluids

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Abstract: -- The advancement in automobile technology is increasing day to day. The efficiency of the engine depends on heat transfer rate of radiator in automobile and further it relays on flow capacity of fluids and material used in manufacturing of radiator. Mostly water is used as cooling fluid in automobile. The researchers were concentrated on different materials and found that copper and aluminium materials shows a higher heat transfer rate compare to other materials. The flow capacity and heat absorption of the fluid can be improved with the addition of Nano additives in radiator. In the current work the performance of the radiator is analysed with different Nano fluids using Pro-E and Ansys. Hence the present work is planned accordingly. Different Nano fluids i.e Aluminium Oxide, Silicon Oxide, Ethylene Glycol and Copper Oxide for volume fraction0.3, are mixed with base fluid water are analysed for their performance in the radiator. Modelling of the radiator is done in Pro/E. The fluid flow characteristics are found using CFD analysis and with the same thermal analysis is done in Ansys for two materials Aluminium and Copper. Finally, it is concluded that the heat transfer co efficient is more for copper oxide at 0.3 volume fraction from CFD analysis. Thermal analysis is done for two materials Aluminum and Copper taking heat transfer coefficient value of copper oxide at 0.2 volume fraction from CFD analysis. By observing thermal analysis results, heat flux is more in Copper compared to Aluminum.

Key Words:-- Aluminium, Aluminium oxide, copper, copper oxide, Ethylene Glycol, Silicon oxide Heat Transfer co efficient, Heat Transfer Rate, Nano fluid, Radiator

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An Electrical Energy Audit at Siddharth Institute

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Abstract: -- Energy plays a central role in all organisations, especially those are energy intensive. Energy audit was conducted at the Siddharth Institute of Science & Technology (SISTK), Puttur, to estimate the energy consumed in a daily and on annual basis. Energy auditing consists of several tasks which can be carried out depending on the type of audit & function of audited activity. It started with review of historical data of energy consumption, those data is important in order to understand the patterns of energy used. The next step is to setup an energy audit program. This program should start with survey of the site to gather the information of electrical equipments presently used. The energy audit discussed in this paper will only focused on Siddharth Institute of Science & Technology. It is carried out with an aim and analysis for identifying possible energy saving measures of this institute.

Keywords: energy audit, data collection, campus, information gathering.

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Performance and Emission Characteristics of A CI Engine With Redesigned Piston Fuelled With Biodiesel And Additives

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Abstract: -- The increased attention on alternative fuels in the recent years was mainly driven by increasing oil prices, strong emission norms and the concern on clean environment. The biodiesel has emerged as a potential substitute for diesel fuel on the amount of its renewable source and lesser emissions. In order to increase the swirl in the combustion chamber, we are redesigning the piston crown with elliptical shaped grooves over it.

The present research is aimed to investigate experimentally the performance and exhaust emission characteristics of a direct injection compression ignition engine equipped with a redesigned piston crown fuelled with conventional diesel fuel, blend of diesel and rice bran oil biodiesel, and blends of diesel and rice bran oil biodiesel with varying proportions of zinc oxide nano materials as additives over the entire range of load on the engine. The piston in the diesel engine is replaced and then fuelled with the above said fuels. The performance parameters such as brake power, specific fuel consumption, thermal efficiencies are calculated based on the experimental analysis and engine emissions such as CO, HC, CO_2, and NO_x emissions are measured. The data has been analyzed and the results are presented and discussed in this project.

Key Words: Rice bran oil, Biodiesel, Zinc oxide nano particles, Trans-esterification, Performance, Emissions.

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Investigation of Thermal Properties of Borassus Flabillifer Fruit and Sisal Fiber Composite Material with Addition of Nano Carbon

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Abstract: -- The main objective of this paper is to investigate the effect of Nanocarbon on thermal properties of borassus fruit and sisal natural fiber reinforced composites .The composites with and without Nano carbon have been prepared by incorporating 100% biodegradable fiber reinforcement . The primary derivative thermo grams of the fibers were recorded in an inert atmosphere at the heating rate of 20 ^{o}C/min. The thermal properties of these samples were investigated according to ASTM standard. From the result it was absorbed that the borassus fruit and sisal composite with addition of Nano carbon showed that there is an appreciable increase in thermal properties of the sample when compared to without addition of Nano carbon composite.

***Key Words*:--** Borassus fruit fiber, sisal fiber, multi-wall carbon Nanotubes, matrix, thermal conductivity, specific heat capacity, guarded heat flow meter, differential scanning calorimeter.

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Comparative Analysis of Different levels in Multilevel PUC Topology for PV Applications

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Abstract: -- Multilevel inverters have created a new interest in the world of research and industry. This concept is used to achieve medium voltage and high power control applications. This paper presents the most advanced multilevel converter topology compared to all the existing concepts which is called packed u cells (PUC).The main concentration of this topology is to reduce the circuit complexity and cost with respective to high conversion quality by reducing the device count and low switching disturbances. In the point of Total Harmonic Distortion (THD) the analysis of transformer-less seven, fifteen, thirty-one levels are performed in this paper. The Simulation is to be carried out by using MATLAB/Simulink software in R2009b.

Keywords— Multilevel Inverter, Packed U Cell (PUC), Harmonic Analysis (THD)

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Practical MINKOWSKI and Koch Curved Fractal Antenna

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Abstract: -- The next generation wireless communication systems requires a small size antennas with virtuous characteristics. The size reduced antennas required on such devices are in enormous demand. Much research going on to make it in a small size and degraded the antennas line by using Koch curve Murkowski island curve fractals and so on. Here we have designed the two element antenna array with and without miter bends. A compact size has been proposed for frequency reconfigurable of 10mmx10mm for single Murkowski and Koch fractals antenna and 20mmx34mm for two element antenna array. This antenna acts as a sensing antenna at one particular switch configuration which focuses the 6.84 GHz band. The material which is utilized is FR-4 epoxy with a width of 1.588 mm is used as the substrate for the proposed antenna. This designed antenna is apt for the cognitive radio applications.

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Experimental Study on Pan Based Composites with Multi Filler Material

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Abstract: -- The experimental work done on studying the characterization of PAN based composites with different types of fillers is investigated. Phenolic composite materials are used into wide range of components to supply a diverse and fragmented commercial base that includes customers in aerospace, aircraft, defense, marine etc., The PAN based laminates are prepared with phenolic resin by hand layup process cured under temperature and pressure. The test samples are prepared by ASTM standard and subjected to testing. Comparison of Mechanical properties of the laminates is tabulated. Generally PAN composites are used for high thermal stability used in aerospace industry. The experimental work carried out to study back wall Temperature through Oxy-acetylene Torch test. The study result reveals that PAN based composite laminates with multi fillers exhibits better thermal protection than single filler laminate.

Keywords: PAN Carbon fabric, Phenolic Resin, hand lay-up technique, Oxy-acetylene flame

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Investigation Study on Silica Filler Pan Based Composite Laminates

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Abstract: -- The aim of this work is to give more information on the PAN/carbon phenolic laminate with and without silica filler material. The experimental study of the mechanical and thermal characteristic properties of Phenolic resin based composites with Silica filler and Carbon as reinforcement will be studied. Laminates will be made by PAN based Carbon with and without Silica filler, sample pieces are tested as per ASTM standards. The quality of laminates is verified and further tested for their mechanical properties like tensile, compression, flexure & ILSS and thermal properties like ablation rate. Fibre volume fraction is also determined from resin content and density as a part of physical properties. The test results are reveals that CP laminate with 5% Silicon filler exhibits the better physical and mechanical properties compared without silica filler laminate.

Keywords: PAN Carbon fabric, Phenolic Resin, Silica, hand layup process, Oxy-acetylene torch flame test.

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Hydro chemical Analysis and Evaluation of Groundwater Quality in Kunigal Taluk, Tumkur District, Karnataka State, India

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Abstract: -- Kunigal Taluk is located in the southeastern corner of Tumkur district in Karnataka state. The taluk covers an area of 981.55 Sq.km, and average rainfall of 600-817mm. Kunigal Taluk is bounded by Latitude N $12^0 44' 38.74''$ to$13^0 8' 1.16''$ and longitude E $76^0 49' 43''$ to $77^0 9' 57''$. The main part of the area is covered under Survey of India (SOI) Toposheet numbers 57C/16, 57G/4, 57D/13, 57H/1 and 57H/2 (Scale 1:50,000). Kunigal Taluk falls in the southern dry agro-climatic zone. The semiarid region and frequently facing water scarcity as well as quality problems. The major sources of employment are agriculture, horticulture and animal husbandry, engaging almost 80% of the workforce for the livelihood. Water samples are collected from 98 stations during pre-monsoon and 98 locations during post-monsoon of the year 2014, and were subjected to analysis for chemical characteristics. The type of water that predominates in the study area is Ca-Mg-HCO_3 type during post-monsoon seasons of the year 2014, based on hydro-chemical contents. Besides, suitability of water for irrigation is evaluated based on sodium adsorption ratio, residual sodium carbonate, sodium percent, salinity hazard and USSL diagram.

Keywords: Groundwater, chemical characters, chemical classification, SAR, RSC, USSL diagram.

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Two Stage Optimization Model to Semantic Service Discovery

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Abstract: -- Discovering appropriate services quickly for dynamic service composition is a challenging issue. Clustering technique partitions the available services into clusters of similar services. During discovery of matched services for a query, semantic matching of service capabilities is performed only to a particular cluster which is most relevant to the query *and* other clusters are ignored as irrelevant. Thus clustering improves the performance of semantic discovery by eliminating irrelevancy. In one of our previous research work, two similarity models, one for computing similarity between services (called Output Similarity Model) while clustering them and the other (called Total Similarity Model) for finding matched services for a given query using clusters along with selection of similarity threshold and recommendation of complete linkage criterion for computing inter-cluster distance are proposed for service discovery using hierarchical agglomerative clustering. As an extension of our previous work, in this paper, an experimental evaluation has been performed to analyze the performance of OSM in regard to effective removal of irrelevancy and the strength of prioritizing parameters during discovery. Further, the clustering solutions obtained using Output Similarity Model are compared with those produced by standard methods such as syntactic similarity and Word Net similarity based methods. Though clustering improves the performance of discovery by eliminating irrelevant clusters, still is required to employ semantic matching to the services present in the relevant cluster. This involves invoking semantic reasoning during querying. To resolve this limitation, after clustering, an indexing technique is suggested to the resulting clustering solution. With this model, the invoking of semantic reasoning is completely eliminated.

Index Terms—Agglomerative clustering, service clustering, similarity models, semantic service discovery, similarity threshold

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Net Shape Components through Automated Selective Inhibition Sintering Process (SISP) for Small Armament Applications by using 3D modelling

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Abstract: -- Selective Inhibition of Sintering (SIS) is a Rapid Prototyping process that makes parts in a layerbased method by using polymer powders. Current SIS machines accomplish this layer-based method by heating a fixed area of polymer powder. The current process is an area of concern because the entire fixed area of each layer is cured, resulting in large amounts of polymer powder being wasted. This paper explains the design of an automated, mechanical system that will mask off areas of polymer powder with heat-resistant fingers, allowing for the adjustment of the heated area in order to cure minimal amounts of polymer powder at each layer. Test results of a prototype model showed significant reduction in polymer powder usage. Selective Inhibition Sintering (SIS) has been proven effective in producing polymeric and metallic parts. Due to the low cost and high quality of SIS printing, the impact of SIS printing in the 3D printing industry could be disruptive. The potential of SIS is further extended to ceramics, an important but hard to print material, by the same mechanism of creating an easy-to-break sacrificial mold. Due to the high sintering temperature of ceramics, fluid based inhibitors delivered by inkjet printing tend to not be effective in SIS for ceramics. Accordingly, the new concept of inhibition by dry powder delivery is implemented. Preliminary experiments have shown the feasibility and ease of printing of simple ceramic parts. Additional experiments are underway to increase the possible part complexity and accuracy, and to optimize the sintering process.

Keywords: Additive Manufacturing (AM), Selective Inhibition Sintering (SIS), Sintering Inhibitor, Ceramics 3D Printing Selective Inhibition of Sintering, SIS, Waste saving, Heater Design

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Study of Wear Resistance and Mechanical Properties for the Titanium Nitride

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Abstract: -- Three body abrasion in the present study, TiN–NiMo composites were re milled to particle size of 250 315 μm and used as reinforcements for Ni ,Cr ,B ,Si alloy by plasma transferred arc hard facing process. The manufactured hard facing alloy was characterized in terms of microstructure, mechanical properties and abrasive wear resistance. Deposition results indicate good quality thick coating with uniform distribution of hard cermet (TiN–NiMo) particles in the matrix, minimum level of hard particle dissolution and low porosity of the hard facing. Cermets particles remain in initial form and consist of agglomerates (TiN and (Ti,Mo)C grains) embedded into Ni-based matrix. The mechanical properties of the TiN and (Ti,Mo)C phases measured by Nano indentation are very similar exhibiting a narrow distribution. The nano-scratching test reveals excellent bonding between the matrix and cermets in the hard facing. No crack propagation was found in the interface matrix/hard phase region. The abrasive wear results ensure the promising features of TiN–NiMo reinforcements for Ni-based alloys. Produced coatings showed excellent performance under high-stress abrasion with wear values lower than for industrially used WC/W2C reinforced coatings.

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Study of net Shape Components through Automated Selective Inhibition Sintering Process (SISP) for Small Armament Applications

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Abstract: -- Selective Inhibition Sintering (SIS) has been proven effective in producing polymeric and metallic parts. Due to the low cost and high quality of SIS printing, the impact of SIS printing in the 3D printing industry could be disruptive. The potential of SIS is further extended to ceramics, an important but hard to print material, by the same mechanism of creating an easy-to-break sacrificial mold. Due to the high sintering temperature of ceramics, fluid based inhibitors delivered by inkjet printing tend to not be effective in SIS for ceramics. Accordingly, the new concept of inhibition by dry powder delivery is implemented. Preliminary experiments have shown the feasibility and ease of printing of simple ceramic parts. Additional experiments are underway to increase the possible part complexity and accuracy, and to optimize the sintering process. Selective Inhibition of Sintering (SIS) is a Rapid Prototyping process that makes parts in a layer based method by using polymer powders. Current SIS machines accomplish this layer-based method by heating a fixed area of polymer powder. The current process is an area of concern because the entire fixed area of each layer is cured, resulting in large amounts of polymer powder being wasted. This paper explains the design of an automated, mechanical system that will mask off areas of polymer powder with heat-resistant fingers, allowing for the adjustment of the heated area in order to cure minimal amounts of polymer powder at each layer. Test results of a prototype model showed significant reduction in polymer powder usage.

Keywords: Additive Manufacturing (AM), Selective Inhibition Sintering (SIS), Sintering Inhibitor, Ceramics 3D Printing, Selective Inhibition of Sintering, SIS, Waste saving, Heater Design.

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Study of Structural and Mechanical Properties of Tungsten Carbides, Coatings with Different Cutting Performance of Multilayer Diamond Coated Silicon Nitride Inserts in Machining Aluminum−Silicon Alloy

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Abstract: -- Hard coatings of tungsten carbides have been obtained by the deposition of tungsten thin layers, on steel substrates (containing 0.5% to 0.75 wt.carbon), according to the cathodic magnetron sputtering held at temperature of 650°C. It is established by X-rays diffraction that, in thetemperature range 650-900°C, no formation of tungsten carbides was observed. However, the annealing at a temperature greater than orequal to1000°C promotes the reaction between the constituents of the samples (W, Fe, C) and hence the formation of W2C carbide. No othercompounds were detected. The micro-hardness measured by Vickers tests, increases with the rise in temperature, particularly from 1000°C.The morphology of the surface samples depends on the temperature and duration of thermal annealing.Aluminum−silicon (Al−Si) alloy is very difficult to machine and diamond tools are considered by far the best choice for the machining of these materials. Experimental results in the machining of the Al−Si alloy with diamond coated inserts are presented.Considering the fact that high adhesive strength and fine surface morphology play an importance role in the applications of chemical vapour deposition (CVD) diamond films, multilayer technique combining the hot filament CVD (HFCVD) method is proposed, by which multilayer diamond-coating on silicon nitride inserts is obtained, microcrystalline diamond (MCD)/ nanocrystalline diamond (NCD) film. Also, the conventional monolayer NCD and MCD coated inserts are produced for comparison. The as-deposited diamond films are characterized by field emission scanning electron microscopy (FE-SEM) and Raman spectrum. All the CVD diamond coated inserts and uncoated insert endure the aluminum−silicon alloy turning to estimate their cutting performances. Among all the tested inserts, the MCD/NCD coated insert exhibits the perfect behaviour as tool wear due to its very low flank wear and no diamond peeling.

Key words:--- Thin films, RF magnetron sputtering, Coating, tungsten carbides, aluminum−silicon alloy, multilayer diamond films; silicon nitride; cutting performance

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Ultra Power Saving For Street Lighting System

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Abstract: -- In this paper an ultra power saving for street lighting has been implemented. It helps to reduce the redundant power utilization appropriate to more illumination in natural light. By using RTC (Real-Time-Clock) it generates the timer automatically as given as based on timing conditions. With the help of PIR sensor the presence of a human being or any obstacle detected by using the presence detector, then the street lights will be switch "ON" mode. When a person on any obstacle comes in the detection range else it will be automatically "dimmer mode". The designed system keeps away from the person intrusion in power board. At last, it displays the exact demand for payment information on LCD and data can be received by authorized person with the help of GSM module. The entire procedure can be controlled and maintained by ARM 7 (LPC2148) microcontroller.

Index Terms-- RTC (Real-Time-Clock), PIR Sensor, LCD, Relay, GSM

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Tribological Studies of Aluminum Hybrid Metal Matrix Composite by Using Stir Casting Method

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Abstract: -- Aluminum metal matrix composites have gained much importance now a day in variousplaces because of their good tribological and mechanical properties such as wear resistance, high strength, low density, and good structural rigidity. Aluminum metal matrixes are preferred in the fields of automotive, military, marine, aerospace, and in many other domestic applications. In the present work, it is intended to develop and study the tribological behavior of Al7075,reinforced by composites materials, like Carbide, Nitrides, Oxides, and CarbonNanoTubes. The composite is prepared by using Liquid Metallurgy Route (stir Casting).The tribological and mechanical properties of composites and the reinforced alloys before and after heat treatment of samples are examined by Vickers hardness and the wear resistance finding in pin on disc apparatus. The wear rate and friction co-efficient are evaluated as a function of applied load, sliding time, sliding velocity, and weight fraction for the heat treated particles. The wear surface morphology and wear mechanism of the pins are studied using Scanning Electron Microscope (SEM) and are correlated with wear test results.

Key words: Al7075, Carbide, Nitrides, Oxides, Carbon Nano Tubes.

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Matching of Video Frames through Coupled Decomposition

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Abstract: -- This paper proposes a video matching process through fast and accurate extraction of points that correspond to the same location named tie-points, from pairs of video frames. Video matching is an essential step in multiple video processing applications, including video registration, video retrieval, stereo and 3D reconstruction. State-of -the-art techniques perform full frame matching, i.e., they don't impose any spatial constraints on the matching process. They ignore the actual frame areas from where the tie-points are extracted, even though these may guide the matching process by defining the tie-point neighbourhood. The novel technique introduced in this paper impose spatial constraints on the matching process without employing sub sampled versions of the reference and the target image, which is named as Coupled Decomposition. This technique splits frames into corresponding sub frames through a process that is theoretically invariant to geometric transformations, additive noise and global radiometric differences as well as being robust to local changes.

Finally, the "Matching of Video Frames through Coupled Decomposition" algorithm is implemented to remove redundancies in the videos stored in the mobile handsets, cloud memory etc. Especially in mobile handsets, we record many videos and also receive a lot of videos through social media applications. Unknowingly, we tend to store the same videos more than one time. These redundancies takes lots of memory space and also take a toss on the performance of the system. This paper deals with a novel technology to overcome this difficulty.

Index Terms: -- Coupled decomposition, Frame to Frame Matching, Redundancy, Video Matching.

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Azobenzene Based Metal Oxide Nano Composites ($Tio_{2\ (A\&R)}$ - ZnO) As Photo Anode for Dye Sensitized Solar Cells

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Abstract: -- The third generation solar cells, the dye sensitized solar cells or the popularly known Grätzel cell requires metal oxides such as anatasephasetitania (TiO_2) with wide indirect band gap as photoanodes. Recent reports convey facts that, a bilayer composed of anatase and rutlie TiO2 is efficient than a single layer TiO2 within a dye sensitized solar cell to eliminate the drawbacks of photon firing and electron recombination during the forward and recycling process respectively. Though TiO2 bilayer proves to be effective in the firing and recombination process, the lack of scattering of the resource (solar rays) hinders the process largely resulting in the failure of the solar cells with multiple micro photo anodic layers. Hence, to rectify the same, the concept of inducing Zinc Oxide (ZnO) to a composite of both anatase and rutile phases of Titanium di Oxide was performed. The ZnO and TiO2 nanocomposites were prepared using simple Sol-Gel methods. The nanocomposites were treated with azobenzene to obtain azobenzene based / functionalized nanocomposites. These azobenzene based nanocomposites were characterized using XRD, FE-SEM, FTIR, Raman Spect., UV-Vis, to study their morphological and optical properties. From their characterizations it was found that the azobenzene based nanocomposite had optical bandgap better than the reported literatures.

***Key words*:** Metal oxide, nanocomposite, ZnO, TiO2, azobenzene, better optical band gap

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Experimental Investigation on Modified Exhaust Treatment System for Diesel Engine Emissions

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Abstract: -- A new kind of exhaust after-treatment system having Diesel Particulate Filter, Three Way Catalytic (TWC) converter (in substitution of SCR & Oxidation catalyst) with new kind of DEF/Ad blue-Dosing Module with Manual Control, Supply Line strategy and Supply module, is prepared in order to Finding the scope for increasing the efficiency of a Urea-SCR system. The results show that there is a 85% reduction in the CO and HC emissions after arranging the setup. It is also found that on an average there is a 75% reduction in the NO_X.

Keyword:--Diesel Engine; TWC; DEF/ Ad blue; Urea-SCR; DPF; Emissions.

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Performance and Emission Characteristics of Corn oil blended with Diesel

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Abstract: -- The consumption of energy in the form of fossil fuels has been increasing day by day. There is a need to increase energy supplies to meet basic needs and the way that promotes sustainable development. Bio-diesel is an attractive alternative fuel for diesel engines in terms of environmental benefits. In India the production of corn is increasing ever year, the corn oil is extracted from the germ of corn . This paper investigates the emission characteristics of single cylinder diesel engine using biodiesel blends. In this experiment, an attempt has been made to investigate four types of diesel-corn oil mixtures. The diesel engine is run on these blends at different load conditions and various emission parameters like NOx, Carbon dioxide and Unburned Hydrocarbon and Carbon monoxide, and brake thermal efficiency, Specific fuel consumption are measured.

Keywords-Corn oil; Biodiesel; Engine performance, Engine Emission;

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Complexity Reduction of MIMO Decoder

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Abstract: -- The data rates and the supported range in communication systems, can be increased using MIMO (Multiple input and multiple output) technique. MIMO technique uses multiple antennas at both transmitter and receiver. MIMO systems uses Orthogonal frequency division multiplexing (OFDM) technique for multicarrier modulation. QR decomposition (QRD) is the first step in the decoding of the MIMO receiver. Gram Schmidt, Householder and Givens described QR decomposition method which are computationally intensive as these involve division operation for normalization. The computation complexity of these methods for MIMO-OFDM systems is difficult to handle because QR decomposition is performed for each subcarrier. Sphere decoder is an efficient decoder for MIMO systems. In this paper we use Modified Householder's method for reducing the computation complexity without affecting the system packet error rate (PER) performance. The simulation process is carried out in all different models of 802.11 TGAC channels.

***Keywords*—**MIMO decoder, QR decomposition, Sphere decoder

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Surface Characteristics of Extrusion Honed Monel-400

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Abstract: -- Extrusion Honing (EH) also known as Abrasive Flow Machining (AFM) was developed in1960s, which is a non-traditional micro machining process which is used to deburr, radius, polish and remove recast layer of components in a wide range of applications by flowing pressurized semisolid abrasive laden visco-elastic media over those surfaces of Monel 400. abrasion processes are adopted for achieving the required surface finish and texture. In the present study Monel 400 has been extrude honed in an indigenously built hydraulically operated extrusion honing setup using a select grade of polymer and SiC abrasives of different grit size for different hole diameters. Generated surfaces were evaluated in terms of surface roughness. The results showed that surface parameters and material removed were mainly influenced by abrasive concentration and abrasive grit size.

Index Terms—Extrusion honing, Monel, Surface finish, Silicone,

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An Enhanced iUPQC Controller to Provide Extra Grid-Voltage Regulation as a STATCOM

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Abstract: -- This paper presents an improved controller for the dual topology of the unified power quality condi-tioner (iUPQC) extending its applicability in power-quality compensation, as well as in microgrid applications. By using this controller, 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 vol t-age at the grid-side bus. In other words, 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. Experimental results are provided to verify the new functionality of the equipment.

Index Terms—iUPQC, microgrids, power quality, static synchronous compensator (STATCOM), unified power qual-ity conditioner (UPQC).

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An Integration of an UPQC in Micro-Grid with Improving the Power Quality in both Interconnected and Islanding Modes of Operation

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Abstract: -- The placement, integration, and control of unified power quality conditioner (UPQC) in distributed generation (DG)-based grid connected/autonomous micro-grid/micro-generation (μG) system has been presented here. The DG converters (with storage) and the shunt part of the UPQC Active Power Filter (APFsh) is placed at the Point of Common Coupling (PCC). The series part of the UPQC (APFse) is connected before the PCC and in series with the grid. The dc link can also be integrated with the storage system. An intelligent islanding detection and reconnection technique (IR) are introduced in the UPQC as a secondary control. Hence, it is termed as UPQCμG−IR. The advantages of the proposed UPQCμG−IR over the normal UPQC are to compensate voltage interruption in addition to voltage sag/swell, harmonic and reactive power compensation in the interconnected mode. During the interconnected and islanded mode, DG converter with storage will supply the active power only and the shunt part of the UPQC will compensate the reactive and harmonic power of the load. It also offers the DG converter to remain connected during the voltage disturbance including phase jump.

***Index Terms*—**Distributed generation (DG), intelligent islanding detection (IsD), micro-grid, power quality, smart grid, unified power quality compensator (UPQC).

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A Novel Approach for Design and Analysis of Modular Multilevel Converters for HVDC Networks

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Abstract: -- Modular multilevel converters are a rising voltage source converter topology reasonable for some applications. The expanded usage of HVDC power transmission arrangements has brought about Modular Multilevel Converter sturning into a more regular converter sort. Different applications incorporate interfacing renewable vitality power sources to the system and engine drives. Measured multilevel converters are gainful for medium voltage engine drives in light of the fact that the properties of this converter topology, for example, low twisting, take into account an effective engine drive plan.

In this paper we exhibited the configuration and execution of a vigorous Modular Multilevel Converter which can be interconnected with the conventional HVDC power dispersion systems which gives various remarkable execution highlights like bidirectional power flow coordination, dependable step up and step down operation particular multilevel dc/dc converter, termed the DC-MMC, that can be sent to interconnect and bidirectional adaptation to internal failure which is as often as possible found in the DC circuit breakers. The centre part of the proposed Modular Multilevel Converter makes utilization of interleaved strings of fell sub modules. The proposed converter model actualizes an open circle voltage control technique to guarantee the power equalization of each discrete capacitor module with the assistance of flowing AC ebbs and flows. The proposed converters are composed, executed and tried in the Matlab Environment. The recreation results pronounced that the proposed methodology is best in all viewpoints and beats all the current methodologies.

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A Photo Voltaic System Based Dual Inverter

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Abstract: -- This scheme presents an integrated solution for Photo Voltaic cell(PV) fed water-pump drive machine which uses an Open-End Winding Induction Motor (OEWIM). The dual inverter fed OEWIM drive achieves the functionality of a three level inverter and needs low value DC bus voltage. This helps in optimal arrangement of Photo voltaic cells; this can avoid large strings and helps in improving the PV performance with wide band-width of operating voltage. It also reduces the voltage rating of the DC-link capacitors and switching devices used in the system. The proposed control scheme achieves an integration of both Maximum Power Point Tracking (MPPT) and *V/f* control for the efficient utilization of the PV panels and the motor. The proposed control scheme requires the sensing of PV voltage and current only. Thus, the system requires less number of sensors.

***Index Terms*—**Photo voltaic cell, centrifugal pump, maximum power point tracking, open-end winding induction motor

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Model Predictive Control of Three-Phase Four Switch Inverter-Fed Induction Motor Drives

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Abstract: -- The four-switch three-phase (B4) inverter has the possibility of reducing the inverter cost, and it became very attractive in fault-tolerant control to solve the open/short-circuit faults of the six-switch three-phase (B6) inverter. Its application is limited due to the fluctuation of the two dc-link capacitor voltages which causes the unbalance among the phase currents. Predictive torque control (PTC) scheme is proposed for the B4 inverter-fed induction motor (IM) with the dc-link voltage offset suppression. For precise prediction and control of the torque and stator flux, the voltage vectors of the B4 inverter under the fluctuation of the two dc-link capacitor voltages are derived. By directly controlling the stator flux, the three-phase currents are forced to stay balance. The voltage offset of the two dc-link capacitors is modeled and controlled in the predictive point of view.

***Keywords*:--** Model Predictive Control (MPC), Induction Motor (IM), four switch inverter, cost function, current unbalance.

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A Quad Two-Level Inverter Topology

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Abstract: -- A multilevel inverter topology for a four-pole induction-motor drive is presented in this paper, which is constructed using the induction-motor stator winding arrangement. A single dc source with a less magnitude when compared with conventional five level inverter topologies is used in this topology. Therefore, power balancing is-sues (which are major challenges in conventional multilevel inverters) are minimized. As this configuration uses a single dc source, it provides a path for zero-sequence currents because of the zero-sequence voltages present in the output, which will flow through the motor phase winding and power electronic switches. To minimize these zero-sequence currents, sine–triangle pulse width modulation (SPWM) is used, which will shift the lower order harmonics near to switching frequency in the linear modulation region. However, in the case of over modulation, harmonic voltages will be introduced close to the fundamental frequency. In this regard, a modified SPWM technique is proposed in this paper to operate the drive in the over modulation region up to the modulation index of $2/\sqrt{3}$. The proposed quad two-level inverter topology is experimentally verified with a laboratory prototype on a four-pole 5- hp induction motor. Experimental results show the effectiveness of the pro-posed topology in the complete linear modulation region and the over modulation region.

Index Terms: — Induction motor drive, modified sine– triangle pulse width modulation (SPWM), multilevel inverter, over modulation

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An Attachment for a Pesticide Sprayer

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Abstract: **--** In this paper, the design and implementation of pesticide sprayer has been presented. The proposed system is the modified model of the hand sprayer which minimizes the difficulties of the hand type of sprayer such that it also reduces time required to spray pesticide, labor skill, cost as well as effort etc. In this sprayer, the rotary motion is converted into reciprocating motion with the help of wheel. It could also be operated in rainy and cloudy weather conditions. This system can be used for spraying pesticides, fungicides, fertilizers and paints also. The developed systems initial cost is little more as compared to conventional sprayer but the running cost of the system is all most zero in other words minimum.

Index Terms**—**Pesticide; fertilizers; sprayer

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Review of Solar Operated Automatic Irrigation System: Comparative Study Analysis

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Abstract: -- Agriculture plays a vital role in India's economy. Over 58 % of the rural households depend on agriculture as their principal means of livelihood and irrigation technologies are going to be point of focus in future developments. Irrigation is the procedure through which farming efficiency can be increased when deficiency of rain is there. This calls for focused attention to promote improved water management practices in irrigation projects suffering from operational deficiencies and integrated water resources development and management approach. Typical irrigation systems consume great amount of conventional energy through the use of electric motors and pumps powered by diesel. The variation of spatial and temporal distribution of available water for irrigation makes significant demand on water conservation techniques; this can be done by automation in irrigation by using solar energy which is free and able to help in reducing waste of water and time, both for farmers.

The main objective of this review paper is to present a comprehensive literature review starting from conventional irrigation system technology to the latest trends of solar power based automatic irrigation system available commercially and available in research stage. Also comparisons between solar based automatic irrigation system with existing technologies, based on various parameters like energy efficiency, feasibility, economic viability is carried out in depth & conclusions are presented in the forms of remarks.

Index Terms- solar pumps, automation, irrigation, microcontroller Moisture sensor, relay, solar panels

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APF with PI Controller Based Harmonic Reduction In Micro Grid Distribution System

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Abstract: -- In distribution systems, the nonlinear loads draws non-sinusoidal currents from the AC mains due to sudden increase or decrease of load and also affects the load harmonics and reactive power. It also produces excessive neutral currents that give smog in power systems. Due to the nonlinear features and fast switching of power electronic devices most pollution problems are created in power systems. The Shunt active power filter(SAPF)controlled PWM converters are based on current and has seen as a most viable solution. So the harmonics and reactive power compensation is presented in this paper from 3P4W micro-grid distribution system by PI controlled shunt active power filter (SAPF). The technique used to generate desired compensation current extraction is based on offset command instantaneous currents distorted or voltage signals in the time domain because compensation time domain response is quick and it produces easy implementation and lower computational load than the frequency domain. The MATLAB/Simpower Systems tool has proved that the combined system inject maximum power and compensate the reactive power and harmonic current drawn by nonlinear loads.

Index Terms— Voltage Disturbances, Nonlinear Loads, PCC, Power Quality, Shunt Active Power Filter (SAPF), PWM

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Data Mining and Knowledge Innovation Tools for Managing Big Earth Observation Images

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Abstract: -- The continuous increase in the size of the archives and in the variety and complexity of Earth-Observation (EO) sensors require new methodologies and tools that allow the end-user to access a large image repository, to extract and to infer knowledge about the patterns hidden in the images, to retrieve dynamically a collection of relevant images, and to support the creation of emerging applications (e.g.: change detection, global monitoring, disaster and risk management, image time series, etc.). In this context, deals with knowledge discovery from Earth-Observation (EO) images, related geospatial data sources and their associated metadata, mapping the extracted low-level data descriptors into semantic classes and symbolic representations, and providing an interactive method for efficient image information mining. with providing a platform for data mining and knowledge discovery content from EO archives. The platform's goal is to implement a communication channel between Payload Ground Segments and the end-user who receives the content of the data coded in an understandable format associated with semantics that is ready for immediate exploitation. It focuses on the design and implementation of methods for the extraction of relevant descriptors (features) of EO images, specifically Terra SAR-X images, physical integration (fusion) and combined usage of raster images and vector data in synergy with existing metadata. It will provide the user with automated tools to explore and understand the content of highly complex images archives. The challenge lies in the extraction of meaningful information and understanding observations of large extended areas, over long periods of time, with a broad variety of EO imaging sensors in synergy with other related measurements and data.

Index Terms— Systems to manage Earth-Observation images, data mining, knowledge discovery, query engines

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Tongue Based Diagnosis System Using Matlab

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Abstract: -- Tongue diagnosis is carried out using MATLAB Software on tongue images having cracks and the results gives the problems associated with the given tongue image. The human tongue carries information about the status of health of a person. A crack on the tongue is also called as a scrotal tongue or fissured tongue, is a condition by deep groves in the dorsum of the tongue. The major areas that we examine for tongue diagnosis are shape, color and cracks on the tongue. Chronic disorders are also revealed by cracks on the tongue. Thus a crack on the images of tongue tells the health condition of a human being. A deep crack in the center reaching to the tip reflects hyper activity of Heart fire. Cracks in the center line reveal back problems. If cracks exhibited horizontally, then it is caused to deep and long standing emotional problems. One crack down in the middle is an indication of nerve disorder. If the crack extends to the tip of the tongue then heart and lungs may be stressed.

Index Terms— Tongue diagnosis, fissured tongue, deep groves, and dorsum

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Optimal Tuning Of Fractional Order PID Controller for Dc Motor Speed Control Using Particle Swarm Optimization

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Abstract: **--**PID controller is the most widely used controller in industry for control applications due to its simple structure and easy parameter adjusting. But increase in complexity of control systems has introduced many modified PID controllers. The recent advancement in fractional order calculus has introduced fractional order PID controller. Fractional order PID (FOPID) controller is an advancement of conventional PID controller in which the derivative and integral order are fractional rather than integer. Apart from the usual tuning parameters of PID, it has two more parameters λ (integer order) and μ (derivative order) which are in fractions. This increases the flexibility and robustness of the system and gives a better performance than classical PID controller. In this paper, FOPID has been applied to DC motor for speed control and optimal values of K_P, K_I,K_D, λ and μ has been obtained using Particle Swarm Optimization technique.

The main objective of this paper is to minimize transient response specifications chosen as rise time, settling time and overshoot, for better speed response of DC motor drive. The speed control of DC motor is done using PID and FOPID controllers. Implementation of FOPID controller for DC motor speed control using is done PSO tuning method.Particle Swam optimization technique is used to improve the performance of DC motor speed control using FOPID. A comparison is made on the basis of objective function (tuned byParticle Swarm Optimization) between FOPID and PID from output Step responses. The proposed approach had superior features including easy implementation, stable convergence characteristic, and good time responses.

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Implementing the Sustaining Privacy Safety In Personalized Web Search

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Abstract: **--**Personalized internet search (PWS) has in congestible its effectiveness in up the standard of varied search services on the net. However, evidences show that users' reluctance to disclose their personal data throughout search has become a significant barrier for the wide proliferation of PWS. we have a tendency to study privacy protection in PWS applications that model user preferences as hierarchic user profiles. We have a tendency to propose a PWS framework known as UPS which will adaptively generalize profiles by queries whereas respecting user specified privacy necessities. Our runtime generalization aims at hanging a balance between 2prophetic metrics that judge the utility of personalization and also the privacy risk of exposing the neralized profile. we have a tendency togift2 greedy algorithms, specifically Greedy DP and Greedy IL, for runtime generalization. we have a tendency to additionally give an internet prediction mechanism for deciding whether or not personalizing a question is helpful. Intensive experiments demonstrate the effectiveness of our framework. The experimental results additionally reveal that Greedy IL considerably outperforms Greedy DP in terms of potency.

Index Terms-Privacy protection, personalized web search, utility, risk, profile

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Underwater Wireless Communication System

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Abstract: **--**Underwater communication has a range of applications including Remote Operated Vehicle (ROV) and Autonomous Underwater Vehicle (AUV) communication and docking in the offshore industry. Current underwater transmission techniques is primarily utilize sound waves for large distance at lower frequencies and the velocity of sound in water is approximately 1500m/s the resultant communications have problems with multi-path propagation and low bandwidth. The use of electromagnetic (EM) techniques for underwater has largely been overlooked because of the attenuation due to the conductivity of sea water. However, for short range applications, the higher frequencies and much higher velocity can prove advantageous.

This paper will outline which will utilize recent demonstrate of EM wave propagation up to the MHz frequency range is possible in under water.

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Efficient Multiplication for the DSP Applications using Static Segment Method

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Abstract: **--**The requirement to hold up different digital signal processing (DSP) and classification applications on energy-constrained devices has regularly developed. This applications usually execute matrix multiplications using fixed-point arithmetic , while indicating tolerance for some counting errors. Hence, improving the energy efficiency of multiplications is critical. In this brief, we introduce multiplier architectures that can tradeoff counting accuracy with energy consumption at design time. Compared with a actual multiplier, the suggested multiplier can consume 57% lower energy/op with average counting error of ∼1%. Absolutely, we signify such a little counting error does not particularly failure the effect of DSP and the preciseness of classification applications.

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Polar Code Encoder Based On DCT Architecture

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Abstract: **--**A family of low-complexity methods that polarize all discrete memoryless processes is introduced. In both data transmission and data compression, codes based on such methods achieve optimal rates, i.e., channel capacity and source entropy, respectively. The error probability behavior of such codes is as in the binary case. Polarizing capabilities of recursive methods are shown to extend beyond memoryless processes: Any construction that polarizes memoryless processes will also polarize a large class of processes with memory. For this DCT operation

Key words: -- Polar DCT, polarize

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Design of Organ Bath for Multiple Tissue Experimentation in Extensive Research Applications

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Abstract: --Isolated tissue preparations have been actively engaged more than one century, supporting the researchers with expedient biological models without animal systemic influence. The perfused organ is always eliminates the interaction with other organs. However, the traditional system has extensive confines and more use of animals. The present invention is to disregard the issue of more experimental animal usage. The design of tissue organ bath was made with 30cm length and 8cm wide glass pipe with outer water jacket. The series of isolated experiments were performed with isolated ileum, colon, rectus abdomens muscle (RAM) preparations thickness >0.5mm. All the tissues were explored Acetylcholine (1µg-16 µg) for tissue response and it was found that with sigmoid graph with celling effect on ileum- 14 µg, colon 10µg and RAM 16 µg respectively. Hence, this organ bath design perhaps used for isolated vessels and nerve preparations and tissues which provide sensitive responses. It's an excellent replace for neural stimulation or a pacemaker, tissues can be depolarized by the introduction of electrical current into the perfusate or into the tissue.

Key words:-- Design, organ bath, isolated tissue preparations

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Anti-Inflamatory Potential of Bryophyllum Calycinum

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Abstract: - Ethanolic extract of Bryophyllum calycinum (EEBC) belonging to the family of Crassulaceae was evaluated by hot plate and tail flick method-analgesic methods to assess its analgesic activity. The extract was also evaluated for its anti-inflammatory activity by subjecting into carrageenan, and cotton pellet induced granuloma tests for its effect on acute and chronic phase inflammation models in rats, as well as analgesic activity in mice. It was found that the extract caused an inhibition on the tail flick method-analgesic in a dose dependent manner. 200 mg/kg doses of EEBC and pentazocine could increase the tail responding by 14.94 % and 13.09 % ($p<0.05$), respectively. It was also indicated that the EEBC showed significant ($p<0.001$) antinociceptive action in hot plate reaction time method in mice. This effect was comparable to that of standard drug pentazocine treated controls, suggesting the central activity of EEBC. Maximum inhibition (56.71%) was obtained at a dose of 100 mg/kg after 3 h of drug treatment in carrageenan induced paw oedema, whereas diclofenac sodium(standard drug) produced 57.65% of inhibition. In the chronic model (cotton pellet induced granuloma) the EEBC 400 mg/kg, diclofenac sodium standard drug showed decreased formation of granuloma tissue by 12.04 % and 13.77 % respectively. The results indicate the potent analgesic and anti-inflammatory effects and therapeutic efficacy of Bryophyllum calycinum extract on animal models which are comparable with those of standard drugs such as pentazocine and diclofenac sodium respectively.

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Review of Wind Mills

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Abstract: **--**There are number of sources for generation of power but in the recent years wind energy shown its potential as the clean source of energy and contributing to the high energy demands of the world. In this paper we present an historical background of wind turbine and over view on its type .review of wind mills topic are chosen because wind energy is renewable resource and wind energy is cheap and is largely dependent upon manufacturing, distribution and building of turbines. Wind turbine having main two types that is horizontal axis wind turbine (HAWT) and vertical axis wind turbine (VAWT). The horizontal axis wind turbine cannot be used for household purpose; it required more space for installation.

Index Terms**—**HAWT, Turbine, VAWT, Wind Mill

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Effect of Load on Coefficient of Friction between Tyre and Road Surface

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Abstract: **--**The current situation of world is very cautious about energy sources. So we need to develop technology for saving or reducing the use of these sources. In this experiment, we have studied the importance of coefficient of friction between tyre of vehicle and road for fuel economy. By experimentation, it is found that increase in weight of vehicle, increases coefficient of friction, which affects on fuel economy. So, for fulfilling these requirements, we have to reduce the load on vehicle tyre, resulting in decrease in coefficient of friction, increasing performance of vehicle which will reduce use of fuel.

Index Terms—coefficient of friction, fuel economy, static force, weight of vehicle

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Shale Gas: A Clean Energy for the World

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Abstract:-We all know energy affects every part and every field of our life. We need energy to do all sorts of physical and physiological activities. But the main thing is that the normal people who use the commercial energy(petroleum, coal) for full fill thereneeds don't know in the matter of uses of these conventional resources we are at the peak and that's the reason these conventional energy is going to end.At the present rate of consumption, the world's crude oil reserves are estimated to be depleted in 40 years and there may be enough undiscovered oil lasting for another 40 years after this we have no more crude oil for use.

That's the reason we need to tilt towards an alternate energy resource of these conventional energy resources and that alternate energy resource of conventional energy resource is unconventional energy resources.With growing international demand in unconventional resources, shale gas has become the brightest spot. Which is extracted from reservoir with very low porosity (2% or less) and permeability (0.1 to 0.0001 md or even less). There are abundant reserves around the world, about 16000 trillion cubic feet (TCF).

This paper is an overview of the evolving plays and technologies that impact the development and future of the shale resources worldwide.

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A Data Partition Strategy for Large-Scale Data Processing On Constellations

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Abstract: **--**Network traffic cost for any Map Reduce job by creating a manuscript intermediate data partition plan. Collectively think about the aggregator positioning problem, where each aggregator can help to eliminate merged traffic from multiple map tasks. Although a lot of efforts happen to be designed to enhance the performance of Map Reduce jobs, they ignore the network traffic produced within the shuffle phase, which plays a vital role in performance enhancement. The Map Reduce programming model simplifies large-scale information systems on commodity cluster by exploiting parallel map tasks and lower tasks. Finally, extensive simulation results show our plans can considerably reduce network traffic cost under both offline an internet-based cases. Typically, a hash function is used to partition intermediate data among reduce tasks, which, however, isn't traffic-efficient because network topology and knowledge size associated with every key aren't considered. A decomposition-based distributed formula is suggested to deal with the big-scale optimization problem for giant data application as well as an online formula can also be made to adjust data partition and aggregation inside a dynamic manner.

Keywords:-Aggregator, Map Reduce, network traffic.

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Power Quality Improvement & Energy Management Using MMC Based Active Device

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Abstract: **--**A transformer less hybrid series active filter is proposed to enhance the power quality in single-phase systems with critical loads. This paper assists the energy management and power quality issues related to electric transportation and focuses on improving electric vehicle load connection to the grid. The control strategy is de-signed to prevent current harmonic distortions of nonlinear loads to flow into the utility and corrects the power factor of this later. While protecting sensitive loads from voltage disturbances, sags, and swells initiated by the power sys- tem, ridded of the series transformer, the configuration is advantageous for an industrial implementation. This poly-valent hybrid topology allowing the harmonic isolation and compensation of voltage distortions could absorb or inject the auxiliary power to the grid. Aside from practical analysis, this paper also investigates on the influence of gains and delays in the real-time controller stability. The simulations and experimental results presented in this paper were carried out on a 2-kVA laboratory prototype demonstrating the effectiveness of the proposed topology.

Key Words**—**Current harmonics, electric vehicle, hybrid series active filter (HSeAF), power quality, real-time control

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PHY/MAC Design to Enable Internet Infrastructure Connectivity on VLC

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Abstract: **--**Recent rapid growth on smart portable computing devices pushed the radio frequency (RF) based wireless technologies to their band capacity limits. The emerging optical wireless communication has been considered as a most viable solutions to respond to the ever-increasing wireless capacity demand. Particularly, Visible Light Communication (VLC) which uses light emitting diode (LED) as a media of transmission and this enables an opportunity and infrastructure for the high/ low rate low-cost wireless communication. This paper propose the VLC PHY/MAC design to enable the internet connectivity using VLC based network infrastructure. The proposed PHY/MAC design considered to integrate with existing network IP stack in the context of mobile communications given the recent pressing needs in mobile wireless networking. This research deliberate on key challenges involved in Smart Lighting and Wireless Networking to design the next generation wireless technologies using visible light.

Index Terms **—** VLC, PHY, MAC, NETWORK LAYER, IEEE802.15.7, LED, RF, TCP/IP

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Dynamic File Block Operations in Cloud Computing Systems

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Abstract: --Now days many organizations are store their data in cloud computing systems. The organizations choose CSP (Cloud service provider) to store data in cloud storage. Especially small organizations are not having that much money for establish servers, so their only opportunity is CSPs for storing data in cloud. The CSP (Cloud Service Provider) provide cloud storage to customers by rent basis and collect rent based on data size. For easy access the customer want their data to store multiple servers in cloud computing systems. But always the CSPs aim is defraud the customer for storage. Customers offer many no of copies to store but CSP is storing only partial no of copies. So customers need strong proof in the case of CSPs. The Existing PDP (Provable Data Possession) scheme focus only on static data, once data was stored in cloud the customers won't change. The proposed Dynamic File Block Modification, Insertion, Deletion, and Append in Cloud Computing Systems scheme dealing with dynamic data. It allows customers to perform file block operations such as modification, insertion, deletion, and append and these scheme maintains verifier to verify the file in cloud. So the CSPs cannot cheat the customers because verifier check files after each operation.

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An Advanced approach for Summarization Tweet Streams

[1] Sindhuja Paidi
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Abstract: **--**Tweet are being made short instant message and shared for both clients and information examiners. Twitter which get more than 400 million tweets for every day has risen as a precious wellspring of news, online journals, feelings and that's only the tip of the iceberg. my proposed work comprises three parts tweet stream bunching to group utilizing tweet group calculation and second tweet group vector procedure to produce rank rundown utilizing voracious calculation, thusly requires usefulness which fundamentally vary from conventional synopsis. When all is said in done, tweet outline and third to distinguish and screens the rundown based and volume based variety to create timetable naturally from tweet stream. Executing constant tweet stream decreasing a content record is however not a basic errand, since an immense number of tweets are useless, random and boisterous in nature, because of the social way of tweeting. Further, tweets are emphatically connected with their presented case and up-on the moment tweets have a tendency to touch base at a quick rate. Productivity—tweet streams are constantly enormous in level, consequently the synopsis calculation ought to be incredibly competent; Adaptability—it ought to give tweet rundowns of irregular minute lengths. Subject development—it ought to routinely identify sub-point changes and the minutes that they happen.

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Effective Bug Tracking Approach by Data Pruning Method

[1] Udaya Sri
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Abstract: **--**The procedure of altering bug will be bug triage, which intends to effectively relegate an engineer to another bug. Programming organizations spend a large portion of their expense in managing these bugs. To decrease time and cost of bug triaging, we introduce a programmed way to deal with foresee a designer with important experience to explain the new coming report. In proposed approach we are doing information lessening on bug information set which will decrease the size of the information and additionally build the nature of the information. We are utilizing occasion choice and highlight determination at the same time with verifiable bug information. We have included another module here which will portray the status of the bug like whether it appointed to any engineer or not and it is redressed or not.

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A Novel Approach towards Policy Prediction of User Images on Social Sites

[1] Sujitha Putta
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Abstract: **--**Utilization of online networkings has been impressively expanding in this day and age which empowers the client to impart their own data like pictures to different clients. This enhanced innovation prompts protection infringement where the clients can share expansive number of pictures over the system. To give security to the data, I set forward this proposed approach comprising Adaptive Privacy Policy Prediction (A3P) structure to help clients make efforts to establish safety for their pictures. The part of pictures and its metadata are inspected as a measure of client's protection inclinations. The Structure decides the best security strategy for the transferred pictures. It incorporates a Picture order structure for relationship of pictures with comparative approaches and a strategy forecast method to naturally produce a protection arrangement for client transferred pictures.

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EIRQ Technique for Differential Query Services in Cost Efficient Clouds

[1] K.Niranjan Kumar
Siddharth Institute of Engineering & Technology

Abstract: **--**As an emerging technology trend Cloud computing is expected to reshape the advances in information technology.In a cost-efficient cloud environment, a user can tolerate a certain degree of delay while retrieving information from the cloud to reduce costs. In this project, we address two fundamental issues in such an environment: privacy and efficiency. We first examined a private keyword-based file retrieval scheme that was originally proposed by Ostrovsky. Their scheme allows a user to retrieve files of interest from an untrusted server without leaking any information. The main drawback is that it will cause a heavy querying overhead incurred on the cloud and thus goes against the original intention of cost efficiency. In this project, we present three efficient information retrieval for ranked query (EIRQ) schemes to reduce querying overhead incurred on the cloud. In EIRQ, queries are classified into multiple ranks, where a higher ranked query can retrieve a higher percentage of matched files. A user can retrieve files on demand by choosing queries of different ranks. This feature is useful when there are a large number of matched files, but the user only needs a small subset of them. Under different parameter settings, extensive evaluations have been conducted on both analytical models and on a real cloud environment, in order to examine the effectiveness of our schemes.

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Seismic Behaviour of Reinforced Concrete Frame with and Without Infill Walls

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Abstract: --Reinforced Concrete Framed Structures with unreinforced infills are the most common types of structures constructed all over the world. However, while performing the analysis, these infill walls are treated as non-structural elements and they are ignored. The above assumption may be reasonable in high seismicity regions, and in most of the countries these systems are not usually employed and modeling procedures of such structures are not specified by national codes of most of the countries. So the differences in seismic behavior of RC building with and without infill walls which is neglected in the design should be investigated. The infill walls have high lateral resistance and tend to separate from boundary frames and they form a compression strut mechanism.

In this study, structural analyses and pushover analysis were performed for a masonry infilled high-rise building of G+14 storey using software SAP 2000. The infill walls are modeled as Equivalent diagonal struts. Seismic behavior of four models i.e., bare frame model, single strut model, three strut model in different seismic zones is compared and presented. In single strut model, infill panel is replaced by single diagonal strut member between the corners. In three-strut model, infill panel is replaced by one diagonal and two off-diagonal members.

And the result obtained from the analysis is compared in terms of strength and stiffness.

From analytical results, it is observed that masonry infill walls increase the stiffness and global strength of the structure and RC frames with infill walls are economical when compared to bare frame structure. It is also observed that three strut model is more accurate in estimating the forces.

Key Words: -- reinforced concrete frames; masonry infill walls; bare frame model; equivalent diagonal strut model.

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Tongue Based Diagnosis System Using Ni-Lab View

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Abstract: **--**The Tongue diagnosis is a vital instrument used in Ayurvedic medicine for assessing a person's current state of health and for providing a basis for prognosis. Diagnostic technique informs the practitioner or doctor related to the human organs and the body systems. In this paper, different images of diseased tongues and a healthy tongue are analyzed using image processing tools of NI-LABVIEW. Based on the variation of color on different portions of the tongue such as top, middle and bottom are corresponding to vata, pitta and kapha respectively, standard deviation and mean values are calculated for each of these portions under RGB color plane extraction using NI vision assistant. Finally we present a comparison between standard deviation and mean values of a healthy tongue and a set of tongue images of diseased persons.

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Seismic Strengthening Of Reinforced Concrete Frames Using Aluminum Shear Yielding Dampers

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Abstract: **--**A large amount of energy is imparted to the structure during earthquake ground motions, due to which excessive deformations, forces and sometimes collapse of the structure take place.The current codal provisions consider the limited ductility of concrete and based on that, the design philosophies have been evolved. For a better performance, vibration contro techniques can be adopted. The principle of vibration control is that the collapse can be prevented by allowing structural members to absorb and dissipate the transmitted earthquake energy by inelastic cyclic deformations in specially detailed regions. A passive control system, Aluminum metallic shear yielding damper reduces the seismic response of the structure when subjected to seismic ground motion. The imparted energy is dissipated by the metallic damper through inelastic deformation of metals. To assess the performance of the damper in reducing the seismic effects, it is necessary to evaluate the energy imparted and the energy dissipated. An effort is made to evaluate the damper by carrying out non linear time history analysis. Building structures with and without dampers have been considered and analysed using ETABS and the response and energy charecteristics have been studied. In the present work, three floor heights ie 30,45,60m are considered and subjected to a seismic excitation of El-Centro 1940 earthquake ground motion. Aluminium dampers are used owing to their yielding capacity.Various shear yielder stiffnesses are considered for the present syudy. Roof displacements, storey drifts, base shears and energies are studied and a comparative study is made. Roof displacements decreased appreciably to an extent of 78%, base shear by 63%, storey drifts by 79%, energy by 85% for structures equipped with AL-SYD of varying stiffness when compared to structures without dampers which amply indicate the effectiveness of shear yielding dampers.

Keywords: **--** Non-linear time history analysis, ETABS, El-Centro ground motion data,Passive control systems, and Aluminum shear yielding dampers.

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Active Islanding Detection Technique Using Average Absolute Frequency Deviation

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Abstract: **--**An average absolute frequency deviation value based active islanding detection technique is proposed in this paper. The inverter's classical q-axis current controller is modeled with a continuous periodic reference current of a small value. During the loss of mains, the island's frequency deviates with respect to the variation in the reference current; this is detected by making the use of an average absolute frequency deviation value. In case of a stable island formation, there is a small periodic frequency deviation owing to the small value of the periodic reference current, and the frequency deviation is so small that it falls inside the no detection zone (NDZ) of the frequency relay. The main advantage of the proposed algorithm is that it detects the stable island formation but without forcing the island to lose its stable operation. In case of no islanding switching events, which may transiently impose a significant deviation in the frequency, the possibility of false detection is eliminated by reconfirming the occurrence of islanding once it is suspected. The reference current is kept to a small value to limit the degradation of the power quality and the power factor. Computer simulation is done with MATLAB.

Index terms **–** Average absolute frequency deviation value (AFDVvg), distributed generation (DG), islanding detection technique (IDT).

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Fuzzy Ontology Model for Gathering Web Information

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Abstract: **--**A model for knowledge description and formalization, these various ontologies are widely used to represent various user profiles in personalized web information gathering manner. Represent these user profiles, many of these models have evaluate only their knowledge from either a global knowledge base, and also it called as a user local information. In this paper, a Fuzzy is a semi-automated collaborative tool for the construction of fuzzy ontology models. Fuzzy is an extension of the well known ontology model for which we have defined new meta classes to allow the definition of parameterized functions. Fuzzy also gives support to instantiate fuzzy concepts and roles. Fuzzy allows querying fuzzy ontologism based on fuzzy criteria. We present in this paper the Fuzzy Ontology

Algorithm for gathering web related information we give some details on its implementation and also the way we use it to validate fuzzy ontologies.

General Terms**—**Ontology, Local instance repository, User profiles

Keywords—Ontology, Local instance repository, User profiles, Web information gathering

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The Best Bulk Transportation Approach with Cheapest Cost

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Abstract: **--**Transportation plays a vital role in shaping the nation economically developed. Based on the transportation methods which are used by any country we can easily come to know that is it developed or being developed nation? So, we are introducing the best transportation method with cheapest cost. The bulk transportation problems are to minimize the cost of carrying goods or people from sources to destinations using different types of transportation modes. In this paper, we studied a model of "heuristic neighborhood search approach for bulk transportation problem". We developed a heuristic algorithm for the bulk transportation problem for 'm' sources 'n' destinations. The process is illustrated in detail with the help of numerical example. Computer program for our proposed algorithm was developed in C language and results are reported. Our observations in these results are the CPU runtime is in micro seconds for higher values of the problems to obtain heuristic optimal solutions. We also compared the heuristic solution with optimal solution for different sizes of sources and destinations and found that the method is equally competent with optimal solution.

Keywords:**--**Transportation, Source, Destination**,** Availability, Requirement, bulk cost.

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Work Life Management

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Abstract: **--**Work life balance means balancing working time and free time. Work-life balance signifies the degree to which an employee feels satisfied by having his or her needs met in both work and non-work aspects of life. Through go through greater work-life balance, individuals report feeling enhanced in common that is greater job and life satisfaction and tend to behave in complimentary ways that is lesser turnover and absenteeism. The entry of women in the workplace kick-started and how female employees would successfully care for families while working. Work life balance defines the relationship between ones work life and the commitments in the rest of the personallife, and how they impact on each another. In the modern era of technology and accessibility, organizations have begun to provide their employees with cooperative ways to balance their work and other roles through benefits like flexible working hours so on. How-ever, contribution of these benefits is not enough to the organization and management must schedule its promotion of strong work-life balance for employees by creating values and the designing policies that support these initiative. Otherwise, employees feel burden to continuously work, which can be maintained by mobile devices and constant availability of the internet that allows employees to transport a work place wherever they go. Results specify that many people experiencing poor work-life balance. Therefore, employers and employees alike should consider what is most important for achieving this healthy balance. Work–life balance is a idea including proper ordering between "work" (profession and desire) and "lifestyle"(healthiness, choice, holiday, family, spiritual development/meditation). This is related to the awareness of standard of living choice.

Key words: **--** Work life balance, Employees, Satisfaction, Organization, Work, Personal life**.**

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Comparision Of Bursty Keyword Extraction Techniques From Social Media Data

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Abstract: **--**This paper deals with study of different bursty keyword extraction techniques. TF IDF (term frequency – inverse document frequency), Noun Phrase extraction, Sentiment Analysis (Senti Chunk) and Twitter keyword graph are these techniques which have been mapped on twitter data. As twitter data is user-generated and hence, uncertain, more advanced techniques other than traditional natural language processing algorithms needs to be developed for keyword extraction from short text. Few better pre-processing strategies and weighing strategies attempts to make TF IDF and NP Chunk techniques better for short text. More effective results have been obtained using proposed optimized technique

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"Synthesis and Characterization of MoS_2 Thin Films Deposited by automatic CBD method"

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Abstract: --The films were characterized by X-ray diffraction, scanning electron microscope, compositional studies, and electrical measurements. Nanocrystalline Molybdenum disulphide thin films have been deposited at room temperature on non-conducting glass substrates by modifying Chemical Bath Deposition (Automatic-CBD) technique. Ammonium molybdate and sodium thiosuphate were used as basic precursors. The X-ray diffraction analysis shows that the film samples are in layer-hexagonal crystal structure with composition Molybdenum disulfide .Specific electrical conductivity was found to be in the order of 10^{-5} to 10^{-3} $(\Omega\ cm)^{-1}$. The average crystallite size of the films is found to be 284 Å. EDAX analysis shows that the films are nearly stoichiometries of the Mo:S. It is observed from scanning electron microscopy (SEM) that the substrates are well-covered with the deposited Molybdenum disulfide layers without cracks and pinholes.

Keywords:-- Nanostructure; SEM; Chemical synthesis; Electrical properties; Growth Mechanism

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Review on: Content Based Image Retrieval

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Abstract: **--**The paper presents a review of different techniques in content-based image retrieval. Content Based image retrieval is a system by which several images are retrieved from a large database collection. The paper starts with discussing the fundamental aspects of CBIR. Features for Image Retrieval like color, texture and shape are discussed next. We briefly discuss the similarity measures based on which matches are made and images are retrieved. Another essential problem in content-based image retrieval is effective indexing and fast searching of images based on visual features. Dimension reduction and indexing schemes are also discussed. For content-based image retrieval, user interaction with the retrieval system is crucial since flexible formation and modification of queries can only be obtained by involving the user in the retrieval procedure. Finally Relevance feedback is discussed which helps in improving the performance of a CBIR system.

Index Terms— Image retrieval, Content Based Image retrieval (CBIR)

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An Asymmetric Multilevel Inverter Topology for PV Applications With Reduced Number of Power Electronic Components

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Abstract: **--**Multilevel inverter performance is high compared to the conventional two level inverters due to their reduced harmonic distortion, lower electromagnetic interference. However the main drawback of multilevel inverter is increased number of switches, complex pulse width modulation control and balancing of capacitor voltages. This paper proposes a single phase fifteen level inverter for photo-voltaic applications. The proposed inverter topology consists of fewer components with low complexity gate drives and control signals. This paper also presents the most relevant control and modulation methods like Staircase modulation technique with sinusoidal wave as reference.

In this paper also studied proposed multilevel inverter topology for both symmetric and asymmetric configurations. Proposed multilevel inverter is compared with already existing inverter topologies. The entire system is numerically simulated using MATLAB/SIMULINK and the simulation results are presented.

Keywords**—**Symmetric Multilevel inverter, Asymmetric Multilevel inverter, THD, PV Cell

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Utilization of Jute Geo-textile as reinforcing layer in Cold Mix Asphalt Roads

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Abstract: **--**Utility of cold mix asphalt by replacing hot mix asphalt (HMA) in roadway pavement is a burning issue in the recent era. Because several efforts found that HMA emits lots of greenhouse gasses in the atmosphere. On the other hand, the production of cold mix asphalt is favorable as eco-friendly material. So the production of such material reduces emission level as well as reduces fuel consumption for making such mixes (Pundhir, 2012, IRC). Further, it could be used for rural roads in hilly areas having high rainfall and difficult terrain like Arunachal Pradesh, Assam, Manipur, Meghalaya (Choudhary et al., 2012). Further, rising tariff of aggregates substitutes jute geotextile (JGT) as excellent partial alternative due to its high headmost strength, low extension at break, high roughness coefficient, good spin ability, eco-concordant paving material found (Som, 2001). In another studying it is found that direct placement of JGT in HMA burnt due to high laying temperature (Berhanu et al., 2014). But implementation of JGT with the cold mix in binder course is a less explored domain of study till date except some in repair works. Therefore the introduction of JGT in cold mix asphalt is a new investigation attempt in pavement engineering. This investigation is mainly focused on revealing the improvement in mechanical properties and to find out the cost effectiveness. Medium Setting (MS) cationic bitumen Emulsion (conforming to IS 8887:2004) had been mixed with basaltic aggregate to produce cold bituminous mix Non woven JGT (type-1 and type-2) and Open mesh woven JGT of 292 GSM as well as 500 GSM had been placed in the middle of cold bituminous mix specimen individually. After analyzing the experimental data it is found that, Marshall stability of the mix with JGT is increased significantly. Therefore, such improvement implies that placement of such JGT in the cold bituminous mix improves its stiffness and that mayeffectively resist the quick formation of potholes in the pavement.

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Design Approach for Inter Vehicular Communication in ITS

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Abstract: **--**In today's world, the number of vehicles is increasing; creating colossal traffic and more chances of any type of accidents. Efficient monitoring of vehicles is need of time for smooth traffic flow. Many technologies are in action for collision free traffic. So our focus is in using Inter-vehicular Communication(IVC) beaconing for increasing driver safety. In Previously study of Vehicular networking, safety-enhancing protocols and applications are only evaluated based on delays and packet loss rates that form the networking metrics. We present the evaluation scheme will quantify the probability of a crash by continuously monitoring and transmitting the beacon message to the possibly colliding vehicles. We investigated impact of safety messages between car approaching at intersection using road traffic simulator that allow selected vehicle to disregards traffic rules. We uses Intelligent Control Unit (ICU) and Vehicle to Vehicle communication to predict the collision probability at intersection. Our simulation results evince more details about regarding the criticality assessment of beacon messages, and as such they can be used to develop more sophisticated beaconing solutions.

Keywords**—**vehicular ad hoc network, Intelligent Control Unit, IVC, ITS

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Suppression of Common Mode Voltage and Differential Mode Harmonics in Three Phase Inverter Using Hybrid Filter

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Abstract: **--**In this paper, a hybrid filter is presented to reduce the CM voltage (CMV) and the differential-mode (DM) harmonics in a three-phase inverter with carrier peak position modulation (CPPM). Because the use of CPPM strategy in the inverter can ensure that the output CMV will be only two levels in any condition, the simple active CM filter (composed of a half-bridge circuit) in the hybrid filter can effectively suppress the output CMV and CM current. The passive filter in the hybrid filter consists of an added single tuned filter and the original DM low-pass filter. The single tuned filter is designed to lower the DM harmonics, which are aggravated by the CPPM strategy in the carrier frequency band. Through the experiments, the validity of CMV and DM harmonics suppression by the hybrid filter in the three-phase inverter is verified and the calculation-control active CM filter is proved to be the best in the optional schemes.

Index Terms—Carrier peak position modulation (CPPM), common-mode voltage (CMV), differential-mode (DM) harmonics, hybrid filter, sinusoidal pulse width modulation (SPWM).

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A Novel Approach to Provide Web Page Recommendation Using Domain Knowledge and Web Usage Knowledge

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Abstract: **--**As, population increases use of World Wide Web goes on increasing for various purposes. People surfing websites for study purpose, education, entertainment point of view and also access websites for online shopping purpose. But required knowledge capturing is difficult and time consuming which is challenging one. So to overcome this challenge the proposed system gives a novel approach to provide a Web page recommendation. The proposed system consists of three knowledge based models. To improve performance in future key information extraction algorithm is used and comparison takes place between results obtained from applying only three knowledge based models and models along with key information extraction algorithm. Recommendation is given to page from weblog records. Experimental result shows that recommendation for webpage is better by using proposed system than existing system and execution time required for the proposed system is less as compared to existing system and accuracy of proposed system is more than existing system. The key information extraction algorithm is used to achieve better result.

Keywords:- Webpage, Recommendation, Ontological, semantic, Conceptual.

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Design of Optimized Rectangular Patch Antenna for Wireless Applications

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Abstract: **--**In this paper an optimized rectangular microstrip patch antenna is designed for 2.4GHz using genetic algorithm. Inset fed technique is used. An improved return loss of -35dB is observed from -18dB. The optimized patch antenna has shown improved gain of 3.48dB from 1.72dB, low VSWR value of 1.036 and HPBW of 69°.The results are tested using vector network analyser. The designed antenna can be used for IEEE802.15.1 Bluetooth and IEEE802.11 WLAN applications.

Index Terms**-** HPBW, patch, and return loss, VSWR

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Efficiently Process In Reducing the Load Risk from Security Using ABR (Associate- Based Routing) Routing Protocol

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Abstract: **--**As routers in wired networks or access points in managed (infrastructure) wireless networks. Instead, each node participates in routing by forwarding data for other nodes, and so the determination of which nodes forward data is made dynamically based on the network connectivity. In addition to the classic routing, ad hoc networks can use flooding for forwarding the data. Our objective is to find out the malicious node that performs the wormhole attack in network. We have assumed that the MANET consists of group of nodes. We have proposed an algorithm where intrusion detection has been done in a group based manner to take care of the wormhole attacks. The ABR routing protocol is used as the underlying network topology. A two layer approach is used for detecting whether a node is participating in a wormhole attack. The layered approach is introduced to reduce the load of processing on each group heads. From security point of view, this will also reduce the risk of a group head being compromised. . In this paper presents a new, simple and bandwidth-efficient distributed routing protocol to support mobile computing in a conference size ad-hoc mobile network environment. Unlike the conventional approaches such as link-state, distance-vector distributed routing algorithms and TORA, our protocol does not attempt to consistently maintain routing information in every node. We employ an associativity-based routing scheme where a route is selected based on nodes having associativity statesthat imply periods of stability. In this manner, the routes selected are likely to be long-lived and hence there is no need to restart frequently, resulting in higher attainable throughput. To discover shorter routes and to shorten the route recovery time when the association property is violated, quick-abort mechanisms are incorporated into the protocol. The protocol is free from loops, deadlock and packet duplicates.

Key words: ABR, Security, MANET, Protocol, Attack, Intrusion, Detection

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Enhanced LTE-A Model for Improving Energy Efficiency in LTE-A Relay Networks

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Abstract: **--**In future wireless communication, the networks will face the dual challenge to support large traffic volumes by providing reliable service for delay-sensitive traffic. To get this challenge, the relay network is introduced here as a new network design for the fourth generation (4G) LTE-Advanced (LTE-A) network. The resource allocation is investigated including subcarrier and power allocation, under statistical quality of service (QoS) constraints for 4G LTE-A relay networks. Filter Bank Multicarrier with Offset Quadrature Amplitude Modulation (FBMC/OQAM) is recognized as an appropriate modulation scheme for 4G/5G wireless technologies. In this paper, we investigate an enhanced LTE-A model for improving energy efficiency in relay network with an extremely low Adjacent Channel Leakage Ratio (ACLR). Our result suggests that the improvement of energy efficiency with extremely low ACLR, when compared with schemes A, B, C & D. With an extremely low ACLR, FBMC/OQAM scheme is a suitable candidate for cognitive radio (CR) applications.

Keywords:-- Relay network, Adjacent Channel Leakage Ratio (ACLR), Energy Efficiency, Wireless Communication

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Secure-Cloud Storage with File Compression and De-Duplication

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Abstract: **--**Cloud storage services are emerging at a fast rate and rising in data storage field. These services are utilized by people for uploading and backing up data, sharing file through social networks like Cloud, Email, Google Drives Users are able to upload data from pc, mobile or tablet and also download and share them to others. Thus, system load in cloud storage becomes large. Nowadays, Cloud storage service has become an important requirement for several enterprises because of its features like cost saving, performance, security, flexibility. To design an efficient storage engine for cloud based storage systems, it is always required to deal with requirements like huge file processing, light-weight metadata, de-duplication, and high scalability. Here we propose big file cloud architecture to handle all issues in big file cloud system. Basically, here we propose to make a scalable distributed data cloud storage that supports huge file with size up to several terabytes to gigabytes. In cloud storage, system load is usually heavy. Data de-duplication with file compression to reduce the storage space caused by storing same static data from different users. In order to solve the above issues, a common method used in Cloud storage, is by dividing big file into small blocks, storing them on disks and then dealing them using a metadata system. Current cloud storage services have a complex metadata system.

Index Terms:--Secure-Cloud Storage, Chunk Storage Mechanism, Meta Data Storage and Data Security

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Dual-Polarized Antenna with Four Capacitive Feeds at Ultra-Wideband Range

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Abstract: **--**The design and analysis of a UWB (Ultra-Wideband) dual polarized antenna with four capacitive coupled feed micro strip antenna suspended above the ground plane is presented. It has been demonstrated that the proposed approach can used for designing antennas with high impedance bandwidth and gain at UWB range. The proposed work includes the designing of dual-polarized UWB antenna for the applications of Global positioning system in handheld equipment and radar imaging. The UWB antenna will operate at the range of 3 to 11 GHz. An FR4 substrate of dielectric constant 4.4 and dielectric loss tangent of 0.027 is used in the present work. This antenna configuration can be used for Bidirectional radiation patterns required over wider bandwidth.

Keywords: **--** Capacitive coupled feeds, patch antenna, UWB antenna, cavity and FR4.

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Performance and Emission Characteristics of Corn oil blended with Diesel

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Abstract: **--**The consumption of energy in the form of fossil fuels has been increasing day by day. There is a need to increase energy supplies to meet basic needs and the way that promotes sustainable development. Bio-diesel is an attractive alternative fuel for diesel engines in terms of environmental benefits. In India the production of corn is increasing ever year, the corn oil is extracted from the germ of corn . This paper investigates the emission characteristics of single cylinder diesel engine using biodiesel blends. In this experiment, an attempt has been made to investigate four types of diesel-corn oil mixtures. The diesel engine is run on these blends at different load conditions and various emission parameters like NOx, Carbon dioxide and Unburned Hydrocarbon and Carbon monoxide, and brake thermal efficiency, Specific fuel consumption are measured.

Keywords-Corn oil; Biodiesel; Engine performance, Engine Emission;

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Retrieval of Image For Text And Content Using Fusion

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Abstract:-The consumption of energy in the form of fossil fuels has been increasing day by day. There is a need to increase energy supplies to meet basic needs and the way that promotes sustainable development. Bio-diesel is an attractive alternative fuel for diesel engines in terms of environmental benefits. In India the production of corn is increasing ever year, the corn oil is extracted from the germ of corn . This paper investigates the emission characteristics of single cylinder diesel engine using biodiesel blends. In this experiment, an attempt has been made to investigate four types of diesel-corn oil mixtures. The diesel engine is run on these blends at different load conditions and various emission parameters like NOx, Carbon dioxide and Unburned Hydrocarbon and Carbon monoxide, and brake thermal efficiency, Specific fuel consumption are measured.

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Spectrum Sensing Techniques for Cognitive Radio-Based Communication

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Abstract: **--**Cognitive radio (CR) is a new archetype wireless communication system which is use for efficient utilization of radio frequency (RF) spectrum or RF channel for opportunity to wireless communication. The motivation behind cognitive radio is the insufficiency of the existing frequency band and rising demand due to the up-and-coming wireless applications for mobile users. Cognitive radio is advanced technology for dynamic spectrum detection and for the use of unutilized spectrum. The secondary user (SU) devices enthusiastically sense to the primary user (PU) and use the spectrum band if it is accessible without affecting their performance. In this paper we intend methodology and comparative sensing schemes for Cyclostationary feature detection techniques and Co-operative Eigenvalue based spectrum detection in CR. The performance of various wireless fading channels is evaluated by analyzing it's operating characteristics. The study of the performance outcome shows that, at low signal to noise ratio (SNR) sensing is improved in Eigenvalue based detection method because it does not require any prior information about primary signals. For simulation we used MATLAB software.

Keywords **-** Cognitive Radio, Spectrum Sensing, Dynamic Spectrum Management, Probability of detection, SNR, RF, PU, SU

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A Novel Intrusion Reduction Process in MANET

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Abstract: **--**The main challenges in Mobile Ad hoc Networks (MANET) is to design the robust security solution that can protect MANET from various routing attacks. In the presence of malignant nodes, routing causes the most destructive harms to MANET. Even though there available several intrusion response techniques to control such negative attacks, existing solutions typically attempt to isolate malignant nodes based on binary or naive fuzzy response decisions. However, binary responses make additional harms to the network infrastructure by unexpected network partition, causing, and naive fuzzy responses could lead to uncertainty in countering routing attacks in MANET. In this paper, we propose a hazard detection response mechanism to systematically deal with the identified routing attacks.

Our proposed methodology is focused around an augmented Dempster-Shafer scientific hypothesis of confirmation presenting an idea of essentialness variables. Moreover, our tests show the viability of our methodology with the attention of a few execution measurements

Keywords: **--** MANET, Mobile Ad hoc Networks, D-S Theory, Intrusion Response, Hazard Detection, Risk Aware

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Technology Options for Faecal Sludge Management in Developing Countries: Benefits and Revenue from Reuse

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Abstract: **--**This article provides technology options for the treatment of Faecal Sludge in less developed countries to minimize exposure to FS and assesses its benefits along with possible revenue generation from reuse. FS that is collected from septic tanks poses management challenges in urban areas of developing countries. Currently, FS is dumped into the urban and peri-urban environment, posing great risks to the soil, surface water and groundwater quality. FS treatment technology usually consists of (1) primary treatment for the separation of the solid and liquid parts, and (2) sludge treatment, which is the final stage of treatment that is generated from the primary treatment. Adecision matrix was prepared on the basis of primary and sludge treatment technological options with respect to land requirement, energy requirement, skill requirement, capital cost (CAPEX), operating cost (OPEX) and groundwater level. These parameters strongly influence the decision-making about the selection of the FS treatment technology. The selection of a FS treatment technology for a city also depends on the local conditions and priorities of the region with regard to sanitation such as population coverage, environmental and health benefits, elimination of open defecation, etc.

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An Advanced Architecture with low Complexity of Partially Parallel Polar Encoder

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Abstract: **--**Due to the channel achieving property, the polar code has become one of the most favourable error-correcting codes. As the polar code achieves the property asymptotically, however, it should be long enough to have a good error-correcting performance. Although the previous fully parallel encoder is intuitive and easy to implement, it is not suitable for long polar codes because of the huge hardware complexity required. In this brief, we analyze the encoding process in the viewpoint of very-large-scale integration implementation and propose a new efficient encoder architecture that is adequate for long polar codes and effective in alleviating the hardware complexity. As the proposed encoder allows high-throughput encoding with small hardware complexity, it can be systematically applied to the design of any polar code and to any level of parallelism.

Index Terms**—**Polar codes, polar encoder, very-large-scale integration (VLSI) optimization

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Experimental and Regression model for Investigation of the Mechanical Properties of Concrete by Partial Replacement of Cement with Marble Powder & Rice-husk-ash

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Abstract: **--**Making and using of a sustainable concrete has become an important requirement day by day. To reduce the environmental effect, several of supplementary cementing and pozzolanic materials are introduced and they are partial replacement of cement in the concrete. This paper reports the results of the mechanical properties of the concrete with partial replacement of marble powder (0%, 5%, 10%, 15% & 20%). Partial replacement of Rice-husk-ash (0%, 5%, 10%, 15%& 20%) separately and blended both marble powder and rice-husk-ash combines partial replacement (0%, 5%+5%, 10%+10%, 15%+15% & 20%+20%). The test results indicate that marble powder & rice-husk-ash is an effective mineral admixture, with 10% and combine of both (5%+5%) as the optimal replacement ratio of cement.

Index Terms**—** Marble Powder, Rice-hush-ash, Mechanical Properties & Regression Model

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Property Analysis of Nano modified Bituminous Concrete mixes

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Abstract: **--**The surface of aggregate is polar and are water loving and in order to change the polar surface of aggregate and to give a better covered coating with bitumen a nanomaterial is been used. The nano material used in this study is zycotherm. Tests were conducted to evaluate the effects of nano modifier on the volumetric properties, mechanical properties, creep characteristics and rutting potential of Bituminous Concrete mix. The tests undertaken comprise the Marshall test, indirect tensile strength test, boil test, indirect tensile stiffness modulus test, creep test and wheel rut test. The study reveals that the the basic properties of bitumen remains same even after the addition of nano material, all other properties have improved.

Index Terms— nano material,zycotherm

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2-D Data Fusion by Using Non Sub-Sampled Contour let Transform

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Abstract: **--**Image fusion is a technique of fusing multiple images for better information and more accurate image representation compared input images. Image fusion has applications in biomedical imaging, remote sensing, pattern recognition, multi-focus image integration, and modern military. The proposed fusion algorithm benefited by combining individual benefits of median filter, Principal Component Analysis (PCA) , Stationary Wavelet Transform (SWT), Non Sub-sampled Contourlet Transform (NSCT). This algorithm is tested on multi focused images, bio medical images, spine images. Improved results are obtained with proposed algorithm when compared to existing methods on image fusion

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Intrusion Detection Using Efficient Swarm Intelligence

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Abstract: **--**In the current age Intrusion detection is an interest in and challenging area. As there are now a few exploration works are as of now done and the outcome change is in advancement. In this dissertation a hybrid approach has been proposed which is based on association rule mining and Intrusion Detection Using Swarm Intelligence Based on Iterative Selection. The NSL-KDD dataset is used. First normal and attack nodes are separated. Then normal node is checked for suspicious behaviour. Then association rule mining is applied to form the associated for the next pre-processing. Then we check the threshold value obtained for the different intrusion types. If it is passed the threshold velocity assigned, then it will be categorized as the specific attack. We have considered a Denial of Service (DoS), User to Root (U2R), Remote to User (R2L) and Probing (Probe) attacks in this research work. The results show the improvement in detection as compared to the previous method.

Keywords: Association rule mining, DoS, U2R, R2L, Probe

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Proper Use of Multimedia Technology in Higher Education

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Abstract: **--**For the higher studies, the students have been receiving the data information in the different kinds of terms on every day. This makes a challenge for the teachers towards the students. The challenge is to make busy with some learning to the students in the classroom. This paper presents the utilization of the multimedia techniques on students as well as teachers.

Keywords— Multimedia, technology, techniques, development, resources

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Power Efficient and Minimum Delay Parallel Self Timed Adder

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Abstract: **--**This brief presents a parallel single-rail self-timed adder. It is based on a recursive formulation for performing multibit binary addition. The operation is parallel for those bits that do not need any carry chain propagation. Thus, the design attains logarithmic performance over random operand conditions without any special speedup circuitry or look-ahead schema. A practical implementation is provided along with a completion detection unit. The implementation is regular and does not have any practical limitations of high fan-out. A high fan-in gate is required though but this is unavoidable for asynchronous logic and is managed by connecting the transistors in parallel. Simulations have been performed using an industry standard toolkit that verifies the practicality and superiority of the proposed approach over existing asynchronous adders.

Index Terms**—**Asynchronous circuits, binary adders, CMOS design, digital arithmetic

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A Two Stage Double Threshold Cooperative Sensing In Cognitive Radio Networks

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Abstract: **--**Cognitive radio is an exciting innovative technology that has the potential of dealing with the stringent requirement and scarcity of the radio spectrum. Such new and transforming technology represents a paradigm shift in the design of wireless systems, as it will permit the productive usage of the radio spectrum. A standout amongst the most essential difficulties for cognitive radio frameworks is to recognize the presence of primary (licensed) users over a wide range of spectrum specific geographic location and at a particular time. To enhance the reliability of detecting primary users in case of hidden terminal problem, we consider cooperative spectrum sensing in cognitive radio systems. In this paper, we propose a two-step spectrum sensing scheme, where a designated secondary user is involved in the first step, but the second step occurs for cooperative sensing when the outcome of the first step is uncertain to make a decision about the presence of primary users. For this, there are two thresholds for measured energy in the first step; if the sensed energy by the secondary user in the first step is between these thresholds, the second step incurs cooperative sensing of all the secondary users involved; otherwise, the second step is not triggered. Based on conventional single-threshold energy detection algorithm, we discuss about double-threshold version of energy detector in cognitive radio system, and then, we analyze the detection probability and false alarm probability relationships. The proposed method is shown to boost the probability of detection over the conventional method.

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Design and Simulation of RF MEMS Phase Shifter Using Ads Software

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Abstract: --RF MEMS is an array of devices, combining electrical and mechanical components, fabricated using IC batch production technique. MEMS are usually an integration of mechanical elements, sensors, multiport switch, variable capacitor, tunable inductor on a common substrate through micro fabrication. Phase shifter is a two port device that modify transmission phase of RF signal and provide controllable output. DMTL phase shifters generally have excellent performance in the millimeter-wave regime compared to the TTD phase shifters. The DMTL phase shifter is designed using three types of transmission lines such as coplanar waveguide, strip line, micro strip line for the phase shift of 20GHZ. The phase shifter achieves 147.587^0 of phase shift per dB loss at 20 GHz.The insertion loss and return loss of the phase shifter is -0.562 dB and -12.365 dB for CPW, which shows better performance compared to phase shifter designed using other transmission line like micro stripline and stripline.

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