सह वीर्यं करवावहै

Institution of Electronics &
Telecommunication Engineers

National Conference on

EMERGING TECHNOLOGIES
FOR
INTELLIGENT ELECTRONIC SYSTEM DESIGN

Sponsored by

IETE

Sub Centre Indore

18 - 19 SEPTEMBER, 2021

SOUVENIR

विद्या परं भूषणं

Department of Electronics and Communication Engineering

MAULANA AZAD NATIONAL INSTITUTE OF TECHNOLOGY, BHOPAL

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मौलाना आजाद राष्ट्रीय प्रौद्योगिकी संस्थान

भोपाल - ४६२००३ (म.प्र.) भारत

राष्ट्रीय महत्व का संस्थान, मानव संसाधन विकास मंत्रालय, भारत सरकार के अधीन

Maulana Azad National Institute Of Technology

Bhopal - 462003 (M.P.) INDIA

An Institute of National Importance under MHRD, Govt. of India

Prof. N. S. Raghuvanshi
Director, MANIT Bhopal

Message

I am happy that the Department of Electronics and Communication Engineering of Maulana Azad National Institute of Technology, Bhopal is organizing a National Conference on "Emerging Technologies for Intelligent Electronic System Design" sponsored by IETE sub center Indore, from September 18 to 19, 2021.

I am sure that this conference will give an opportunity to the academicians, researchers and industrialists working in the area of Electronics, Communication, VLSI and Signal processing to exchange their thoughts and innovations in the concerned fields, and transform those in reality to solve the problems for the benefit of society.

I would like to take this opportunity to congratulate entire team of conference committee and wish them good luck for the success of the event.

(Prof. N. S. Raghuwanshi)
DIRECTOR

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मौलाना आजाद राष्ट्रीय प्रौद्योगिकी संस्थान

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Prof. Manisha Dubey
Dean (Institutional Development & International Relations)
MANIT, Bhopal

Message

I am delighted that Department of Electronics and Communication Engineering of Maulana Azad National Institute of Technology, Bhopal is organizing a National Conference on "Emerging Technologies for Intelligent Electronic System Design" sponsored by IETE sub center Indore, from September 18 to 19, 2021.

The relevant tracks of the conference in Electronics, Communication, VLSI and Signal processing will be helpful for participants to share their ideas and interact with the fellow participants for new ideas on this national level platform.

I wish good luck for the event.

(Prof. Manisha Dubey)
Dean (ID&IR)

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मौलाना आजाद राष्ट्रीय प्रौद्योगिकी संस्थान

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Prof. Kavita Khare
Head of the Department
ECE, MANIT Bhopal

Message

It gives me great pleasure that Department of Electronics and Communication Engineering of Maulana Azad National Institute of Technology, Bhopal is organizing a National Conference on "Emerging Technologies for Intelligent Electronic System Design" sponsored by IETE sub center Indore, from September 18 to 19, 2021.

This National Conference is aimed at providing a national level platform for academicians, students and professionals from industry who desire to present and discuss their research work with conference participants from all over the country and exchange ideas for betterment of the society as a whole.

I warmly welcome Guest speakers, Session chairs, participants from all over the country to the conference and wish good luck to everyone involved.

16/9/21

Prof. Kavita Khare
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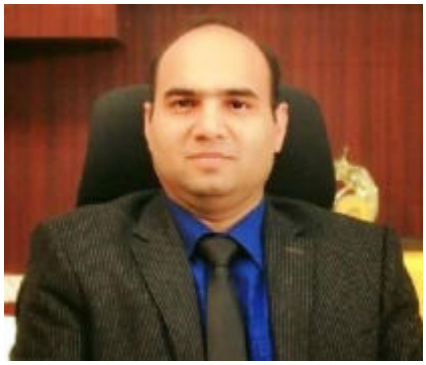

Dr. Dhruva Ghai

Chairman, IETE Subcenter, Indore

Message

It is a pleasure to support the Department of Electronics and Communication Engineering at Maulana Azad National Institute of Technology, Bhopal for conducting a National Conference on "Emerging Technologies for Intelligent Electronic System Design" from September 18 to 19, 2021.

The theme of the conference is very timely, with exciting research going on in the areas of IoT, Machine Learning, Artificial Intelligence, VLSI & embedded system design and their applications. I am sure that this conference will provide a valuable opportunity for researchers, industry specialists and decision-makers to share their experiences.

I wish you every success and look forward to learning about the outcome of this national conference.

Dr. Dhruva Ghai

Chairman, IETE Subcenter, Indore

From the desk of Conference Chairman

It a great pleasure for me to extend a welcome to all of you who are participating in National Conference on "Emerging Technologies for Intelligent Electronic System Design" from September 18 to 19, 2021, which is being held at Maulana Azad National Institute of Technology Bhopal, Madhya Pradesh (India). The conference is sponsored by IETE sub center Indore (MP). In this conference we bring together researchers and practitioners from academia, industry, and government to exchange their research ideas and results and to discuss the state of the art in the areas of the Emerging Technologies in Electronics. In addition, it is an ideal venue for interactions and for them to establish the all-important contacts with each other. The opening ceremony will be on the morning of the September 18th, followed by two days of technical paper presentations until the evening of 19th September 2021. With over many papers received in the area of Electronics, Communication, VLSI and Signal processing. The Technical Program Committee has an overwhelming task of selecting papers of outstanding quality and diversity. Finally, 45 papers were selected, involving authors from different part of India. The keynote speeches will be delivered by some of the most outstanding experts in the field of power electronics from Denmark. Apart from key note address there are some valuable expert lectures from the eminent personality Dr. Ajinkya Kale, Silicon Austria Labs, and Dr. Ram Bilas Pachori, IIT, Indore, are also premeditated.

On behalf of organizing committee, I do hope that conference will be successful and that you are able to enjoy this knowledge sharing through virtual mode in this pandemic situation.

[Dr. Ajay Somkuwar]

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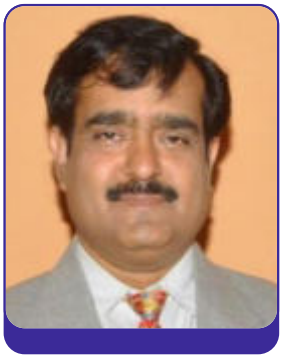

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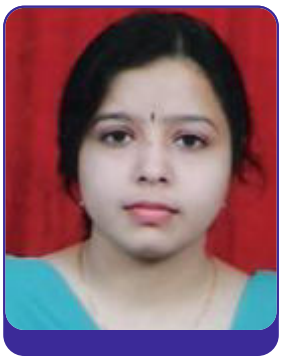

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National Conference on Emerging Technologies for Intelligent Electronic System Design

(Sept. 18-19, 2021)

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2	**Design of 12-bit Digital to Analog Converter in 40nm CMOS Technology** *Narisetti Mary Sravanthi[1], Akshaya Nakhate[2]* *[1]Department of Electronics and Communication Engineering* *Maulana Azad National Institute of Technology Bhopal* *E mail : sravanthinarisetti2323@gmail.com* *[2]Department of Electrical and Electronics Engineering, VIT Vellor*
3	**A bandwidth enhanced metasurface fractal patch antenna** *Tappeta Parimala1 , O. P. Meena* *Department of Electronics and Communication Engineering Maulana Azad National Institute of Technology, Bhopal, India* *Email ID: 1parimalamathews1697@gmail.com*
4	**Comparative Study of Sigma and Wavelet Denoising filter for Source Camera Identification** *Pravee Jain , Dr.Madhu Shandilya* *Dept.of Electronic and Communication* *Maulana Azad National Institute of Technology Bhopal,India* *Emails: pravee.3jain@gmail.com, Madhu.shandilya@yahoo.co.in*
5	**Smart Plant Pathologist:Android application for plant disease detection using Deep Learning and Image Processing** *S. Vishnu Swaroop1 , Y. Akesh, A. Nikhil, K. Tarun, G. Sai Prakash Reddy, O. P. Meena* *Department of Electronics and Communication Engineering* *Maulana Azad National Institute of Technology, Bhopal, India* *Email: s.vishnuswaroop@gmail.com, opm@manit.ac.in*
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9	**Comparative analysis of the performance of Bipartite-Gate (BG) MOSFET and Gate All Around (GAA) TFET** *Prakhar Nigam, Mayuresh Madhav Joshi, Sanjana Tiwari, Arya Dutt, Ribu Mathew, Ankur Beohar* *School of Electrical and Electronics Engineering (SEEE) VIT Bhopal University Bhopal, India* *Emails- prakharnigm27@gmail.com, joshi.mayuresh.m@gmail.com, sanjanatiwari513@gmail.com, aryaduttsharma@gmail.com, ribumathew88@gmail.com, ankurbeohar16@gmail.com*
10	**Convolutional encoder implementation using MATLAB** *Hirdesh Chack[1], Boggarapa Venkata Naga Sai Deepak[2]* *[1]Department of Electronis and Telecommunication,* *Government Polytechnic College Jatara Dist. Tikamghar,* *[2]Department of ECE, MANIT, BHOPAL* *Emails: [1]hirdesh.chack@mp.gov.in, [2]saideepakatp@gmail.com*
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30	**Hate Speech Recognition** *Pankhuri Verma, Juhi Agarwal ,* *Dept. Of Computer Science And applications , GLA University* *pankhuri.verma_cs18@gla.ac.in , juhi.agarwal_cs18@gla.ac.in*
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43	**A novel decision fusion technique for Spectrum Sensing in Cognitive Radio Network** *Hirdesh Chack* *Government Polytechnic College Jatara Dist. Tikamghar* *Lecturer, Department of Electronis and Telecommunication* *E-mail IDs: hirdesh.chack@mp.gov.in*
44	**Design of Micro-strip Rectangular Patch Antenna for Ultra Wideband Application** *Ravikant lodhi, Dr.Laxmi kumre* *Department of Electronics and communication Engineering* *Maulana Azad National Institute Of Technology Bhopal (M.P.)*
45	**Auto Night Lamp Using High Power LED** *Vijay Brat Yadav* *Department of Electronics & Communication Engineering* *Maulana Azad National Institutes Of Technology Bhopal, India* *Emails: vijaybrat1998@gmail.com, opm@manit.ac.in*

Design of Static Low Power Flip flops using Logic Structure Minimisation Techniques

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Abstract- In the given paper, the authors have designed a low-power true single-phase clocking D flip-flop (FF) design by reducing the number of transistors to 18. The design culminates a hybrid logic design with a master slave logic structure along with static CMOS logic & complementary pass transistor logic. The design is modified by eliminating two transistors and replacing it with the corresponding complementary pass transistor logic transistor. The slave state transition is faster than the conventional design because of virtual VDD technique along with reduced circuit complexity. The simulation results are carried out in Cadence Virtuoso 90 nm CMOS technology & exhibit improved average power consumption, data-to-Q delay, clock-to-Q delay and PDP performance is improved by 34% than the logically reduced flip flop design [LRFF].

Design of 12-bit Digital to Analog Converter in 40nm CMOS Technology

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Abstract - In this design, the authors have designed a 12 bit DAC in 40nm. This block is a 12-bit resistive ladder based Digital to Analog converter to drive resistive load up to 5kΩ and capacitive load up to 50pF. Level shifters are used to convert the digital word, control and clock signals to the IP's analog levels. The digital word is latched at the rising edge of the clock signal. The design is implemented with segmented architecture for the best performance in terms of matching, speed and area. 4-bit thermometric resistive ladder and 8bit R2R binary architecture combine to get the desired analog output voltage, which is then buffered to give the final output.

A bandwidth enhanced metasurface fractal patch antenna

Tappeta Parimala1 , O. P. Meena
Department of Electronics and Communication Engineering
Maulana Azad National Institute of Technology, Bhopal, India
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Abstract: In this paper, A Bandwidth Enhancement patch antenna is proposed. This is realized by dispersion property of Metamaterials. Metamaterials patch Antenna can be miniaturized, so that the cutoff frequency is shifted freely, as well as Bandwidth enhancement will occur A modified Fractal shaped slotted patch antenna with shorting via at the bottom

plane has been proposed in this work. Here a 5×5order Metasurface is acting as a superstrate has been formed on the top layer by introducing a periodic combination of squares centered with cross. This proposed antenna provides a fractional bandwidth of 9.7% and return loss of 21dB at 9.03GHz. This Antenna is used in X-band operations.

Comparative Study of Sigma and Wavelet Denoising filter for Source Camera Identification

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Abstract—: In this digital era, multimedia such as images and videos has become one of the principal means of information carrier because of ease in acquisition,distribution and storage. Hence, they are used as a common source of evidence in everyday life controversies and trials. However, the accessibility of this multimedia brings a major drawback. It can be easily edited with a variety of common editing tools like Adobe Photoshop. Therefore, it is easy to modify its content and meaning without leaving any visually detectable traces. In the literature, many instances of tampering or forgery can be found and are very common nowadays. Hence, there is a need to confirm the authenticity of multimedia documents before relying on their content. In response to this, researchers have begun to develop digital multimedia forensic techniques which are capable to identify multimedia forgeries. Digital multimedia forensics analyse the multimedia by making use of the fact that most of image and video processing operations leave visually undetectable traces in the altered multimedia content. These undetectable traces called Fingerprints are detected to reveal tampering. Researchers have addressed two main problems in digital multimedia forensics. The first one is to identify the device which is used to capture the multimedia by performing some kind of ballistic analysis. The secondistodetectthevarioustracesofmultimediaforgeries by studying inconsistencies in the multimedia statistics. To address these two main problems, various techniques have been proposed in literature. In this paper, we will discuss source camera identification using sigma filter and wavelet filter and compare both of the filter performance in terms of TPR,FPR values and will plot ROC performance.

Smart Plant Pathologist:Android application for plant disease detection using Deep Learning and Image Processing

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Abstract: An Android Mobile Application is a software application designed to run on an android mobile phone or tablet. Mobile applications are effective, easy to use and can be designed for various purposes using the latest technologies. Advanced technologies like Convolutional Neural Networks (CNNs) produce better accuracy rates as they are shift and translation invariant. Automated detection of crop growth, pests, bacterial and fungal diseases and nutritional deficiencies in plants using Image processing and Deep Learning techniques

can be used to aid farmers. With the increasing reach of smart phones and internet connectivity, using this kind of application makes agriculture easier and profitable with timely guidance to the farmers. This application mimics the presence of an agriculture expert who is not only well versed with visual symptoms of diseases plaguing crops but can also guide the farmers on appropriate measures to tackle the same.

Concise examination of Spectrum sensing Techniques in Cognitive Radio - Issues and Challenges

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Abstract -With the rapid emergent of wireless technology in world, day by day the usage of wireless services is increases by client. To accomplish wireless services the fixed spectrum strategy is used in this wireless network. By use of this fixed spectrum strategy the difficulty of spectrum scarcity arises in several part of spectrum bands. Due to this scarcity problem an enormous amount of spectrum is not properly utilized by the clients, which is called spectrum underutilization. The discrepancy among necessitate of spectrum and spectrum underutilization a modern spectrum access strategy called cognitive radio which is able to accomplish such problem. Spectrum sensing is an important function of cognitive radio network (CRN) to circumvent harm interference with licensed users and identify the unused spectrum to get better the spectrum utilization. In this paper, a brief survey of different spectrum sensing methods is provided by discussing its models, characteristics, issues and challenges

DESIGN OF LOW POWER HYBRID FULL ADDER USING GDI LOGIC FOR ENERGY EFFICIENT DEVICES

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ABSTRACT: In the present Electronic domain saving of power has appeared as an important feature. The usage of portable devices is also increasing day by day. The most of users demanding greater battery life. This can be reached by reducing power dissipation. For this we have used GDI logic, which is the most effective logic in which we can reduce the power to a larger extent. Here we have compared the simulation results of CMOS and GDI logic. All the simulations are carried out in CADENCE VIRTUOSO 180nm tool. The main applications of these adder circuits are in digital signal processing, image processing etc.

Optimum Delay and Power Dissipation using 14TSRAM With Virtual Ground

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Abstract— SRAM's (Static Random-Access Memories) should be designed with low power dissipation and least delay to provide high speed access. SRAM with high operating speeds

and low consumption plays a vital role in high-speed memory systems. The most important part of electronic systems is memory as we know the major problem with the design of memories is speed and power dissipation i.e., performance of devises. While designing a cell, delay and dynamic power dissipation are the important parameters. To achieve low power and least delay a 14T SRAM cell employs NMOS access transistors, Transmission Gates are used in place of the pass transistors, voltage mode method to decrease swing voltage therefore by making less power requirement even at high frequencies and also combined with virtual ground. The simulations are performed out in 180nm CMOS technology. VLSI Cadence Virtuoso with gpdk180 module library is used for analysis and simulation of the circuit. Hence, In the proposed structure the power and delay are improved compared with the existing 12T SRAM which employs pass transistors i.e., NMOS access transistors.

Comparative analysis of the performance of Bipartite-Gate (BG) MOSFET and Gate All Around (GAA) TFET

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Abstract— This paper, highlights the novel concept and the analysis between a Bipartite-Gate Metal Oxide Semiconductor Field Effect Transistor (BG-MOSFET) and Gate All AroundTunnel Field Effect Transistor (GAA-TFET) with mono-oxide (MnO) and hetero-oxide (HeO) structure. Right here HfO2 is used as MnO while an aggregate of HfO2 and SiO2 act as a HeO and the analysis of both the devices was performed using Synopsys 3D TCAD device simulation software to find the parameters such as ON-current (ION), electric field and electron current density, OFF-current (IOFF) and threshold voltage. As a result, the leakage current has been controlled due to the presence of hetero dielectric and spacer technology, which lowers the fringing field effect. It has been observed that the proposed design of hetero-oxide GAA-TFET has the highest ION/IOFF proportion and low leakage current.

Convolutional encoder implementation using MATLAB

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Abstract: Convolutional encoding is a type of forward error correction techniques. In Wireless communication fading occurs. Fading is variation in attenuation of signal. Forward error correction technique is a method of fading mitigation. Forward error correction techniques correct error at receiver without requirement of retransmission. Error occurs when bits get computed while transmission over the computer networks due to interface and network problems. OBJECTIVE: Simulate Convolutional Encoder which is expressed by generator vectors g0(111), g1(110). THEORY: Convolutional encoding is a type of forward error correction techniques. In Wireless communication fading occurs. Fading is variation in

attenuation of signal. Forward error correction technique is a method of fading mitigation. Forward error correction techniques correct error at receiver without requirement of retransmission. Error occurs when bits get computed while transmission over the computer networks due to interface and network problems.

Convolutional Decoder implementation using MATLAB

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Abstract: Convolution codes are error detecting codes used to reliably transmit digital data over unreliable communication channel system to channel noise. Convolutional encoder is a finite state machine (FSM), processing information bits in a serial manner. The block of n code bits generated by the encoder in a particular time instant depends not only on the block of k message bits within that time instant but also on the block of data bits within a previous span of N-1 time instants (N>1).

Design and analysis of a wideband cylindrical conformal reformed E shaped microstrip patch antenna for airborne applications

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Abstract—A wideband microstrip patch antenna modelled on microwave substrate and conformed to a cylinder of electrically small radius is presented. Modified E shaped slots located symmetrically from the centre of the patch width along with rectangular notches at the two corners of the patch width have been utilized to enhance the operating bandwidth of the patch antenna as compared to the standard conventional patch. The operating frequency range of the cylindrical conformal patch antenna is from 2.14 GHz to 2.93 GHz (covering S band). The antenna shows good gain with minimal variation in both E and H planes across the operating frequency range. Moreover the antenna achieves good co polarization characteristics with side lobe levels less than -10 dB in both E and H planes at both resonance frequencies 2.28 GHz and 2.77 GHz. The antenna may be suitable for airborne applications where the conformability to the arial host body is of prime importance.

Survey of Encryption Algorithm for Security Enhancement over Internet of Things (IoTs) Applications

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Abstract—Privacy is key parameter of communication between or with internet of things. However, some of the challenges arising from the use of this algorithm are computational overhead, use of a fixed S-Box and pattern problems, which occur when handling more complex multimedia data such as text, image and video. Internet of things is promising to

change the world to a better one with its tremendous applications in our daily lives where all physical objects will be connected to each other including humans. One major category of Internet of Things applications falls in the different industry like health, smart cities, Manufacture industries etc. Privacy is key parameter of communication between or with internet of things. Many researchers have carried out research aiming at improving the algorithm's performance. This paper summarizes the various research work based on encryption security algorithms and observed some constraint using in internet of things application.

An analysis and designing of phase array antenna for bandwidth enhancement in 5G application

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***Abstract*—** Mobile communication has become the need of each and every one now a days**.** Many challenges are there to take for the proper transmission between transmitter and receiver**.** Now 5G revolution changes the scenario that the frequency range used for 5G research are in the range of 24 GHz to 28 GHz**.** numerous fields have adopted the 5G technology with internet of things **(**IOT**).** This future 5G technology have wide application in the field of smart transportation, robotics smart cities and so on**.** In this paper we are going to summarize the different parameter bandwidth, gain, directivity, feed point etc., Microstrip patch antenna consists of Roger 5880 mounted on a substrate**.**

Multisection Impedance and Frequency Based Low Noise Amplifier for Wireless Communication

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Abstract: This paper will give the significance of Low Noise Amplifier (LNA) for the wireless Receiver, it is designed to work at different frequencies by using MOSFET, FET with passive and active components which have self-bias characteristics, using proteus simulations, Various parameters are measured namely the design performance of multisection, LNA impedance, frequency analysis, Signal to Noise ratio, power gain, linearity, Noise figure, Stability of the circuit for the frequency range ranging from MHz to GHz.

Cyber Security and Cyber Crime in Asian Countries

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***Abstract*—**The researched work has focused on Cyber Security and cybercrime in different Asian nations. Different Asian Countries have been studied regarding cyber security,

cybercrime, measures to control problems, and units formed for the safety, integrity of information. The inter-relation between cybercrime and cyber security has also been explained deeply with the role of ITMS in PNP. The comparison of Cyber Crime events, and Cyber Security breaches of different nations in recent years have been compared.

Implementation of Low Voltage Current Mirror Circuit using 180nm technology and 90nm technology

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Abstract: The paper discusses implementation of low voltage (LV) basic current mirror (CM) circuit using MOSFET devices . The performance parameters such as output resistance, minimum output voltage requirement and power dissipation are compared for both the circuits. The current mirror circuits are implemented with 180 nm and 90nm technology using Cadence Virtuoso.

Parametric analysis of dual-band patch Antenna using U-slot

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Abstract- This paper, presents the design of a compact slotted multiband rectangular patch antenna is reported which is suitable for high data rate application. The antenna is fed by a microstrip line designed for a frequency of 2.45 GHz and 3.20 GHz. The two bands produced are used for Bluetooth (2.4GHz2.484GHz) and WiMax (3.2GHz-3.8GHz) applications. For the rectangular patch, the Inset Line Feed technique is used to design both antennas. In this design there are two U-slots are created on the patch, which provides an optimized patch area subsequently resulting in a considerable reduction in size as compared to a typical microstrip patch and, the design of such an antenna is meant for satellite communication and radar communication. Also preferably used in ISM (2.4-2.48GHz) Industrial, Scientific and, Medical Application. Simulation results depict that the proposed antenna covers dual impedance bandwidth of 2.45 GHz and 3.2 GHz and these frequency bandwidths are used for the Application of WLAN and WiMAX. Furthermore, the proposed antenna is fabricated and tested for the validation of simulated results. The overall dimension of the patch in this design Antenna is 38.04mm×28.316mm×1.6mm First, the design parameters for a single element of the rectangular patch antenna is calculated from the transmission line model equation and then the antenna design is extended to operate in dual-band using the slots at radiating edges and near the inset feed line and obtained good radiation characteristics. The Process has been carried out in HIGH-FREQUENCY STRUCTURAL SIMULATOR (HFSS) with the specifications ε r=4.4 and h=1.6mm and fr =2.4GHz.

Performance Analysis Of Differential Adder

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Abstract- This paper explores different full adder techniques such as Transmission Gate(TG) Logic, Complementary Pass Transistor Logic(CPL) Complementary Metal Oxide Semiconductor(CMOS) and some of the hybrid logic style techniques for less transistor count and less power dissipation for full adder circuit. The main objective is to find full adders providing low powered and high-speed with good voltage swing. Also we discuss in this paper hybrid 2(16T) adder is extended up to 32 bit adder and hybrid1(22T) extended up to 64 bit word length FA .They need smallest amount of transistors as compared to conventional CMOS technology.But the drawback is that delay increases when we extended word length to 32 bit or 64 bit.

Deep Learning, Neural Network and Its Application

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Abstract— Deep Learning algorithms imitates the working of the super powerful human brain in various aspects like processing data and creating patterns that allow decision making and therefore the structure of deep Neural Network is similar to that of the neuron network in the human body. Neural Network comprises of multiple layers to gradually extract superior level features from the eggy input data. Artificial Intelligence is the father of Machine Learning and in turn the grandfather of Deep Learning, Deep Learning has networks which are competent of unsupervised learning from raw input i.e., unstructured data. Deep Learning possesses a superpower that is the ability to learn and therefore it can make better and efficient use of datasets for the purpose of feature extraction. Owing to its intelligence and ability to learn, Deep Learning becomes renowned aspect of Artificial Intelligence. Deep Learning is the secret ingredient that spices up many exciting and futuristic advancements and has made most of our wildest dreams and as well as the worst nightmares come true. Deep Learning applications may seem disillusioning to a normal human being, but to those with the privilege of knowledge and understanding of the Machine Learning world understands the dent that Deep Learning is making globally by producing machines with the ability to learn. Recently, Deep Learning has gained great progress in various fields like Natural Language Processing (NLP), Computer Vision, SelfDriving Cars, Speech Recognition, Cybersecurity, Virtual Assistants, Healthcare, image & face recognition and many more.

Crypto-Currency Trading Bot

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***Abstract*—**Originally known for their reputation as havens for criminals and money launderers, cryptocurrencies have come a long way—with regards to both technological advancement and popularity. Around 7 million Indians have already pumped in over $1 billion into cryptos just after the government has declared it legal. The global crypto market cap is $1.62T, the opportunities are also big as the numbers are. It's possible to get filthy rich by investing in cryptocurrency. But you could also lose all your money. How can both of those things be true? Well, like most investments, crypto assets come with a host of risks but also vast potential rewards.

Women Safety through portable devices- A Survey

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Abstract—Women safety in India is widely discussed now a days everywhere as it has become a major issue, crime rate has almost at its spike in which most of the cases are women harassment, so women safety is becoming very important. There are lot of existing application but are not that effective as they requires a significant amount of human interactions to operate. Some of these uses human temperature, heart rate, pulse rate which is used to generate alarm and at the same time multiple messages are sent along with the location to the most important family members and relatives so that action can be taken. Threshold is determined as when a person runs, body temperature and heartbeat pattern changes and thus an alarm is taken at the output which rings according to the input it gets, also pressure sensor can be used at the input which is used to generate some human bearable electric shocks for the attacker so that women gets time to escape and protect herself. In case of no internet connectivity Zigbee mesh network is used to send the data.

Low power high speed Full adder Circuits

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Abstract— In today's advancing high-speed communication world, the use of electronics portable devices is rising day by day. Because the devices are portable and tiny, they must meet the requirements of low power dissipation and minimum space need as well as fast speed. 1-bit full adder circuits are optimized for low power consumption and minimal latency. The parametric restrictions such as power consumption, latency, and area are compared with several full adder circuits built and remarked on which design provides the best performance parameter. The Power Delay Product defines the circuit's efficiency.

Comparative study of proactive, reactive and hybrid routing protocols in simple and clustered adhoc networks

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ABSTRACT: The performance of multiple routing protocols in Mobile Ad hoc network (MANET) always fascinates everyone. As many old (previous) works have revealed, routing performance is greatly dependent to the accessibility and stability of wireless links. Even though the studies reported to portray the performance of routing protocols in MANET, much less work is done for the system overall performance, which is generally called as the network throughput, delay and network load. MANET is a self organized and self configurable network where the majority mobile nodes move randomly distributed. We compared three routing protocols i.e. AODV, OLSR and GRP. Our simulation tool will be OPNET modeler. The performance of these routing protocols is analyzed by many metrics: delay, network load and throughput through conventional and cluster based in time average graphs. All the three routing protocols are explained in a proper way with simulation metrics. The comparison analysis will be resonant about these protocols and in the last the conclusion will be presented, that which routing protocol is the best one for mobile ad hoc networks. The final evaluation is presented at the end of this paper.

State -of- art analysis of Image Registration Methods based on the SIFT Algorithm

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ABSTRACT: This article aims to present a review of recent and classical methods of registration of the images. Image registration is a method of projecting two or additional images from the same scene or object. Scale Invariant Feature Transform (SIFT) algorithm of the image registration method based on local features. After the association of all type of registration methods in the image on to date SIFT algorithm is an efficient, accessible, and high accuracy method by changing different aspects of an image like size, rotation, and viewpoint, etc. In the field of image and video, the SIFT algorithm extremely fashionable because SIFT has excellent repeatability, locality, efficiency, and distinctiveness. SIFT algorithm is modified at a large scale and successfully applied in different field applications like medical, defence, remote sensor, industrial purpose, etc. This article presents around 30 image registration algorithm based on SIFT from 2004 to 2020. SIFT algorithm has modified at various stages as per the demand of its application and its goal. A comparative study of the SIFT algorithm presented with its pros and cons for multiple types of images with its implementation.

The study of various registration methods based on Maximal stable external region and Machine Learning

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Abstract: The intention of this review is exposing the modern and classical methods of registration for an image. Registration is a way of correspondence between two or more image from the same object. Maximal stable extremal region (MSER) and Deep Learning (DL) both methods based on the local feature. After the association all type of registration methods it sorted out that MSER and DL algorithm is a well-organized, handy, and high precision methods by changing various aspect of given images like size, viewpoint, etc. Both algorithms are more fashionable nowadays for registration in the area of image and video because they have excellent repeatability, efficiency and feature mining properties. This article is accessible around 35 registration algorithm based on MSER and DL from 2004-2020. MSER and DL customized at different stages as required of the application. A comparative study also was done with their pros and cons for the implementation of a unique registration mechanism.

Network performance evaluation on optimized limit of cluster size and load balance bearing limit with varying simulation speeds for aodv in mobile adhoc networks

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ABSTRACT: MANET or Mobile Ad hoc Network is a robust, short-lived, infrastructure less (set of wireless mobile nodes) ,autonomous, self-configuring, non centralized wireless network. A MANET can be created either by mobile nodes or by both fixed and mobile nodes. This paper mainly focuses on understanding the characteristics/behavior of optimized number of nodes on the load bearing capacity on MANET for obtaining effective output(i.e. to make a limit to cluster size in MANET for efficient throughput). In MANET nodes randomly communicate with each other forming arbitrary topologies. They act as both routers and hosts. The requirement for mobility in wireless networks necessitated the formation of the MANET working group within In this paper to study the routing protocols AODV for mobile ad hoc network. Further the implementation of a 21 node and 1mobility configuration (Fixed node) using Network Simulator OPNET will be done to Simulation and performance analysis of these network protocol for Number of Hops per Route, Route Discovery Time, Routing traffic received in both (bits/sec and pkts/sec), Routing Traffic sent i both (bits/sec and pkts/sec), Cache replies sent, Packets dropped, replies sent from Destination, Route errors sent, route replies sent, Route requests sent.

Blockchain: applications , functionalities and challenges

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Abstract **—** Blockchain technology is becoming increasingly attractive to the next generation, as it is uniquely suited to the information era. This review aims to explore the benefits, challenges and functionalities that affect blockchain applications in different sectors. Also it discusses implementation of blockchain technology in various fields such as in IOT, electronic voting machines, cloud computing and cryptocurrencies. The results of this review study aim to support professionals, practitioners, and stakeholders who wish to implement and manage transformation projects related to blockchain in their sectors. Moreover, helping these possible blockchain users to understand the implied factors associated with blockchain would be beneficial for the decision-making processes of their organizations.

SMS slangs translator

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Abstract- The dynamism of language is often an indication that current language technology tools trained on today's data may not be able to process the language in the future. Our resource could be used to augment the WordNet, used in several Natural Language Processing applications which allow the use of noisy data on the internet like Information Retrieval and Web Mining. Such a resource can also be used to distinguish slang word senses from conventional word senses. To stimulate similar innovations widely in the NLP community, we test the efficacy of our resource for detecting slang using a standard bag of words Word Sense Disambiguation algorithms for English data on the internet.

Hate Speech Recognition

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Abstract - The rising prevalence of hate speech on the internet, as well as the urgent necessity of efficient counter measures, have attracted major investment from governments, businesses, and researchers in recent years. On the internet, a great variety of approaches for detecting automated hate speech have been created. This seeks to categorise textual information as non-hate or hate speech, in which case the approach may also identify the hate speech targeting features (i.e., hate categories such as race and religion). For practical reasons, we suggest in this paper that the latter problem should be prioritised. We show that it is a far more difficult undertaking, as our examination of the language in common datasets reveals that hate speech lacks distinctive, discriminatory characteristics. This paper, therefore, aimed to investigate several classifier models based on detecting hate speech in English tweets. To conduct our experiments, we firstly took a hate speech dataset from Kaggle competition that was divided into training and testing datasets. Then, using datasets, we ran a

series of tests to evaluate three models: SVM, XgBoost and Random Forest. Our experiment's result showed that SVM gave the best result with a f1 score of 0.6972.

Implementation of frequency shift keying signal using MATLAB

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***Abstract*—** In recent years, as we see there was a huge demand in increasing in communication, it has become important to give better service to clients by utilizing effective method. This paper proposes a method to enhance the performance of FSK in Digital Modulation. This method was designed and experimentally carried out to transmit and receive digital data source through FSK scheme. It has been validated by creating a MATLAB/SIMULINK system model. This method consists of simple but very effective algorithms without adding complexity to the demodulators comparing to other very complex methods. Modulation techniques like FSK modulator play a crucial role since it defines data which needs to be transmitted. FSK demodulator performs recovering the original message from the modulated waveform. Demodulation is processed when the receiver receives modulated signal. The demodulation processes the modulated carrier signal to get the original data or in formations. This work serves as a guide for researchers of FSK to determine the suitable features.

Design of a Miniaturized Lumped Elements Loaded Wideband HF Antenna

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Abstract- In this paper, a new miniaturized High Frequency (HF) broadband antenna design is proposed. The antenna design incorporates a new method that replaces impedance transformer with Lumped element. The simulation result of the designed antenna shows remarkable improvement in the VSWR and antenna height is miniaturized. Performance parameters are improved due to the inserting of a few R, L, and C loading circuits in the antenna. The proposed antenna design miniaturized the height of the antenna from 12m to 1m and also stabiles the radiation pattern which looks like a stable monopole antenna. So the additional requirement of impedance transformer circuits is avoided because the VSWR remains less than 2.5 in the whole HF band (3 MHz to 30 MHz) for port impedance 50 Ω and 75Ω respectively.

Implementation of Quadrature phase shift keying (QPSK) signal using MATLAB

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Abstract— Digital modulation ,process that intrigues an digital symbol on to a signal reasonable for transmission on a wired or remote medium to get that signal at getting end accurately without any deficiency of data. Quadratic phase shift keying (QPSK) modulation procedure is the most generally utilized modulation strategy in current advanced digital communication system; it as well produces high performance on band width and bit error rate. In this paper the complete structure of quadrature stage shift keying (QPSK) modulator and demodulator has been created. The simulation has been done in Matlab . Complete outcomes are verified. At the end, the implementation of hardware design of QPSK for wireless modem has been proposed. QPSK modulation has different applications especially in the design of remote modem, cell CDMA communication.

Digital image forgery detection using adaptive over segmentation and feature point matching

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Abstract— From the good old days, pictures are for the most part acknowledged as a proof of event of the past occasions. Advanced picture is a piece of this present reality which is created after numerous cycles of picture age. The advancement of the web has introduced the unbelievable turn of events and upgrades in the lofty. The procedures introduced in the 21st century has made the human life more pleasant and secure, at any rate the security to the primary reports has a spot with the checked individual is stayed as pushed in the high level picture planning a territory. Copy-Move forgery detection deals with adaptive over segmentation and feature point matching in this work. The suggested conspire coordinates key point-based forgery and block-based detection techniques. To begin with, the suggested Adaptive Over-Segmentation algorithm slices the input picture into well separated and asymmetrical blocks suitably. At that point, the feature points are extricated from each block as block features, and to find the labelled feature points these block features are matched with each other; this technique roughly shows the speculated fraud locales called surmised forgery regions. To identify the forgery regions correctly, we suggest an algorithm called Forgery Region Extraction, that super pixels are replaced by the feature points and afterward combines adjoining blocks that have similar local colour features into the feature blocks to produce the unified regions; at long last, to produce the detected forgery regions we apply the morphological operation to the unified regions. The experimental outcome demonstrates that the proposed copy-move forgery detection plan accomplishes much better detection outcomes.

Proximity based optimized forwarding strategy to converge strom through Nominated neighbours for AODV in MANETs

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Abstract— Mobile Ad Hoc Networks (MANETs) are robust, short-lived, infrastructure less, autonomous , self-configuring ,non centralized made up of nodes in wireless manner. A MANET can be formed either by mobile nodes or by fixed and mobile nodes combination. Broadcasting is a prominent operation of route discovery in them. Though it can simply be achieved by flooding but it is very inefficient as it provides redundant message relays. Consequently overuse of limited network resources happens like channel node energy and bandwidth. It results in multiple retransmissions which results in packet collisions and channel congestion that can significantly degrade the network performance and throughput. These retransmissions can be reduced by knowing the geographical position of the mobile. In this paper, an improved Flooding Algorithm has been proposed that makes use of the nodes' location along with greedy forwarding technique to rebroadcast the packets and scatter the control traffic in the network. We have improved the process of redundant transmission excess by LOCATION AIDED ROUTING and AREA PARTITIONING METHODS. We have implemented and analyzed this entire scenario in OPNET MODELER which is effective tool to be employed in this case and protocol used is AODV protocol to minimize the number of propagating Route Request (RREQ) messages. The RREQ has been changed by allocating a list to the RREQ contain fourth Nominated Neighbors to Rebroadcast the RREQ (NNRR) .The results produced by simulator shows that our scheme decreases the routing overhead and enhances network throughput.

Performance evaluation of aodv using opnet modeler with malicious nodes in the network

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Abstract—This paper evaluates the network performance of Adhoc On Demand Distance Vector Routing protocol with malicious nodes. Firstly we will see the normal configuration of the network means without any malicious node. Then we will see the performance with a malicious node and black hole component included in the network .The results are clearly seen from the Result section. We have used OPNET MODELER (RIVERBED MODELER) to carry out the entire simulation.

Low Power Techniques in CMOS VLSI Circuits – A Review of the Literature

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Abstract— Low power is extremely crucial in today's VLSI technology, as seen by the current trends in the industry. In lowpower VLSI designs, assessment techniques and extension circuits are used to improve performance. Power dissipation is primarily considered in terms of performance and area. Because of improved quality, reduced power consumption and power management on the chip remain the most difficult tasks to overcome even at 100nm and beyond. When it comes to power optimization, lowering the cost of the package and increasing battery life are both critical considerations. Leakage current is critical in

power management, because low power consumption is a significant negative in high-performance digital and microchip systems, which are becoming increasingly common. The leakage current of integrated circuits is a significant contributor to the total power dissipation of the device. It is only important for a winning chip to have low power consumption and accurate power dissipation calculations. A wide range of issues are discussed in this work, ranging from device or method level to formula level, including future concerns that must be addressed in the design and application of low power circuits.

Ultra-Low Power 1V Supply Dynamic Latch Based Comparator

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Abstract—This paper presents a low power dynamic comparator or ultra-low power applications. The prototype is designed in a 65nm CMOS process with a supply voltage of 1.8V and is compared against the widely used double tail latch comparator in terms of power consumption and input referred rms noise. The addition of cross-coupled devices to the input differential pair prevents the comparator internal nodes from fully discharging to ground in contrast to the conventional architecture. This reduces the power consumption while achieving similar noise levels. Measurements demonstrate that the proposed comparator achieves an input referred rms noise voltage of 220μV against 210μV for the conventional comparator with a 30% reduction in power. The proposed circuit consumes 0.19pJ energy per comparison.

A Review - Physical Unclonable Functions

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Abstract— Physical unclonable function (PUF) is hardware-specific security primitive for providing cryptographic functionalities that are applicable for secure communication among the embedded devices. The physical structure of PUF is considered to be easy to manufacture but hard or impossible to replicate due to variations in its manufacturing process. However, a large community of analytics believes hardware-based PUF has paved the way for its realization in providing dependable security. In this paper, the authors have thoroughly explored the architecture, applications, requirements, and challenges of PUF that provide security solutions. For presenting the literature, they have designed a taxonomy where PUFs are divided under two main categories, including non-silicon and silicon-based PUF.

A Survey On Triangular Quadrature Amplitude Modulation

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Abstract— The efficacy of transmission has been improved after great effort in wireless communication. For last many years the square quadrature amplitude modulation (SQAM) has application in many digital communication systems as the detection method used in

SQAM is less complex. But the power efficiency is not optimum in SQAM. The new method, triangular quadrature amplitude modulation (TQAM) serves improved power efficiency than SQAM. In this method the signal points are positioned at the vertex of contiguous triangle. In this article, a prelude survey is made on many signal constellations which uses TQAM. All the techniques of TQAM provide higher power gain and improved bit error rate (BER) than SQAM. It is observed that TQAM maintains good trade-off between gray coding penalty and power gain.

Machine Learning based COVID-19 Vaccination Prediction in India

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Abstract: In the presented study, we looked at the spread of COVID-19 across India. This project gives information about the spread of COVID-19 on the basis of region / state, number of active cases / deaths/ recovered cases per day in a particular state of India from the data, we also get to know about the symptoms like fever, dry cough etc. which were found in people who tested COVID positive. We analyzed the impact of COVID-19 in the World with respect to gender and age. Secondly, we did the analysis of vaccine distribution as per different countries since the day it started globally. Also coming specifically to our country, we predicted the number of days it would take for the vaccination process to complete.

As the result of analysis, we get to know the major symptoms found in Covid-19 patients, the number of deaths and recovered cases in various Indian states. Further on we analyzed vaccination processes in different countries and predicted the number of days for the vaccination to cover the Indian population. The purpose of this study is to understand the spread of Covid-19 due to the virus outbreak and to determine how the process is carried out in different countries and how long it takes to complete vaccination.

A Joint Power and Carrier Frequency Allocation Algorithm for Underlay Cognitive Radio Network

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Abstract: The lack of available unlicensed spectrum together with the increasing spectrum demand by the multimedia applications has led to the spectrum scarcity problem. The goal of this paper is to present an algorithm for joint power and carrier allocation in a relay assisted underlay cognitive radio network. The network comprises of cognitive relay nodes which operate on the same frequency band as the source and amplify the received signal and forward it to the receiver. In this work, two unique challenges are addressed. The first one is the incorporation of primary user's activity by considering the interference constraint. The second challenge is to identify the relay nodes with better channel quality in order to maximize the throughput. The adaptive modulation scheme has been used in implementing this mechanism. The algorithm has been implemented and the results have been simulated and analyzed.

A novel decision fusion technique for Spectrum Sensing in Cognitive Radio Network

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Abstract: In Cooperative Spectrum Sensing (CSS), data fusion / combination technique performs better as compare to decision fusion technique at the cost of large overhead size and complexity. The decision fusion technique is comparatively simple, only one bit is required to convey result of spectrum sensing but at the cost of loss of some sensed information. In this paper we have developed a generalized *K*-bit Softened-Hard fusion technique which gives best of the data and decision fusion techniques with *K* bit overhead for each user. The simulation results show that for target false alarm probability 0.05 and PU's SNR= -2dB the gains in probability of detection with respect to 1-bit fusion technique are 4.3 %, 6.5%, and 8.7 % for *K=2*, *K=3* and *K=4* respectively.

Design of Micro-strip Rectangular Patch Antenna for Ultra Wideband Application

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Abstract :A micro strip rectangular patch with additional ring for ultra wide band antenna proposed in this paper. The volume of proposed antenna is 45.7868 x 43.2329 x 3.315 mm^3 including patch, substrate and ground plane. The associate 10dB bandwidth of 23.59 GHz from 3.59GHz to 27.18GHz.the return loss [S_{11}< -10 dB], radiation pattern and the gain shows in good with the bandwidth. The gain of the antenna is 9.41dB maximum at the frequency of 26.56 GHz .The CST microwave studio software has been used to design and to optimize the antenna performance. The RT/droid 5870 dielectric layer, product of ROGERS CORPORATION has chosen.

Auto Night Lamp Using High Power LED

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Abstract— Auto Night Lamp Using High Power LEDs is a circuit which turns ON the LED lights interfaced to it at night time and it turns OFF the lights automatically when it is day. Usage of LEDs is growing day by day due to the advantages they provide compared to the conventional filament bulbs or fluorescent lamps. They provide good quality of white light with a better intensity compared to others. They also consume less power compared to their alternatives. These are the advantages which the LEDs encourage us to use them compared to their alternatives. The working of turning on or off of high power LED's with light intensity. The element which is used for sensing light in the circuit is the light dependent resistor. The resistance of the light dependent resistor depends on the light incident on it. If the intensity of light incident on it is more, then the resistance of the circuit decreases. If the intensity of light incident on it decreases, then the resistance of the device increases. We are making use of this property of the light dependent resistor to detect the light and thereby operate the LED'S.

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