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### Design of Snubber Circuit for Thyristors Using Pspice

**Abstract:** In normal cases switching a power electronic devices causes a sudden abrupt transients across the device which is undesirable for its perfect operation. So snubber circuits are necessary to maintain the safe function and long life of power switches. These circuits provide better efficiency and increase the possible switching speed and reduce the EMI. This paper deals with the designing of RC snubber circuit for thyristors. RC snubber circuits are normally connected across a switching device to limit the rate of rise of voltage (dv/dt). To analyse the performance of the circuit inductive load switching is simulated. Simulations are done in Pspice.

**Keywords:** EMI, Inductive load switching, snubber circuit.

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### An EOQ Model for Deteriorating Items with Quadratic Demand and Time Dependent Holding Cost

**Abstract:** This paper presents an inventory model for deteriorating items with Quadratic demand. An Exponential distribution is used to represent the distribution of time to deterioration. Shortages are not allowed and holding cost is time dependent. Our objective is to minimize the total cost. Numerical Examples is given to illustrate the solution procedure.

**Keywords:** Deterioration, Demand, holding cost, Inventory, Quadratic Demand, Shortages.

2. **References:**
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### A Review of Memory Circuit Design Trend in Nanotechnology

**Abstract:** DRAM is type of volatile memory. Nowadays semiconductor memory is capable to store large data in small area. In past SRAM is more preferable as compared to DRAM because of its high speed operation, large noise margin and logic compatibility. However, due to its large cell area and high power consumption, SRAM has...
limitations when expanding the array size beyond a certain level in process variation. This paper reviews the
history of RAM from SRAM to DRAM. It also suggests the day by day DRAM is more preferable as compare to
SRAM because of cell area decreases as number of transistor decreases from SRAM to DRAM design.

Keywords: Cell, Cell area, Dynamic RAM (DRAM), Static RAM (SRAM), 3T-1D (Three transistor-one diode), etc.

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    pp.405-474

Authors: Gajendra Sanjay Vyas, Vivek S. Deshpande
Paper Title: Effect of Multiple Sinks on the Performance of Wireless Sensor Networks

Abstract: Wireless Sensor Network is a collection of sensor nodes. These nodes are to able sense the surrounding
environment and based on changes in environment sends data to destination which is called as Sink in sensor
networks. When any event occur each sensor node try to disseminate data to sink. Due this congestion becomes the
primary problem of network which must be solved, the retransmission of data packet also increased. Due to
congestion the other quality of service parameters (like reliability, throughput) gets decreased. There are two
techniques by which congestion can be reduced which are: either by reducing the data sending rate of source or by
providing extra resources. Reducing data sending rate will decreases the network throughput. In this paper we
proposed the multiple sink mechanism in which sensor nodes are able to deliver data to multiple sink in the
network. Simulation result shows that proposed congestion control mechanism improve the packet delivery ratio,
reliability, throughput of the network and also reduces the packet loss ratio which reduces the number of
retransmission, saves the energy of sensor node. This will improve the network lifetime. It will also able to handle
the “Black Hole Problem” in the wireless sensor network.

Keywords: Congestion Control, Wireless Sensor Network, Packet Delivery Ratio, Multiple Sink, and Reliability.

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12. Charalampos Sergiou, Vasos Vassiliou and Aristodemos Paphitis, “Hierarchical Tree Alternative Path (HTAP) algorithm for congestion

Authors: Pawan D. Kale, D. S. Chaudhari
Paper Title: A Review on Maximum Power Point Tracking (MPPT) Controlling Methods for A Photovoltaic System
Abstract: A renewable energy had been used in solar power generation since years ago. Solar energy is one of the forms of renewable energy source and it brings benefits to the residential that uses it as their alternative power supply. In order to increases the efficiency of system during rapid changing environmental conditions; system will adapt some Maximum Power Point Tracking (MPPT) methods. This paper presents a review on various MPPT methods for variable environmental conditions (i.e. variable temperature and irradiation level), their difficulty while tracking and how those difficulties can be overcome efficiently by the other techniques. Apart from all the methods, an open circuit and slope detection tracking technique is found to be an efficient technique with respect to tracking speed and accuracy. This technique can avoid the unnecessary amount of power loss and therefore maintaining the power efficiency. The Programmable system on chip (PSoC) is used as a Maximum Power Point Tracking (MPPT) controller.

Keywords: MPP (Maximum Power Point), MPPT (Maximum Power Point Tracking), PSoC (Programmable System on Chip), PV (Photovoltaic) panel.

References:

Authors: Rajeev Kr. Singh, Shams Tabrej Alam, Geetali Chakraborty, Sudarshan Chakravorty

Paper Title: A Spatio-Temporal Adaptive Processing For Modeling of Seaborne Clutter

Abstract: The presence of clutter is a big obstacle for proper detection of targets in seaborne radar systems. Spatio-temporal adaptive processing (STAP) helps to remove the problem of clutter by exploiting Doppler spread. The modeling requirements of clutter for spatio-temporal adaptive processing are considered in this study. Modeling of the internal motion of seaborne clutter and its effect in the clutter domain is also studied.

Keywords: Adaptive processing, Doppler spread, Intrinsic clutter motion, Seaborne clutter, Spatio-temporal.

References:

Authors: Sudipta Kumar Banerjee, Sourav Saha, Rajarshi Sanyal

Paper Title: Dual Band and Tri Band Pentagonal Microstrip Antenna for Wireless Communication Systems

Abstract: This paper presents multiband compact pentagonal shaped antenna. A flexible design approach allows both dual band and triple band keeping the constant coaxial feed location and using the simple variation of radiating edge; the dual band and triple band operations are possible. Such antennas are implemented on RTduroid 5880 dielectric. All the simulations are carried out in IE3D software.

Keywords: Dual band, pentagonal patch, radiating arm, tri band.

References:
8. **Authors:** Lakshmana Phaneendra Maguluri, Keshav Rajapathamula, P. Naga Srinivasu  

**Paper Title:** A Comparative Analysis of Clustering based Segmentation Algorithms in Microarray Images  

**Abstract:** As of now, several improvements have been carried out to increase the performance of previous conventional clustering algorithms for image segmentation. However, most of them tend to have met with unsatisfactory results. In order to overcome some of the drawbacks like dead centers and trapped centers, in this article presents a new clustering-based segmentation technique that may be able to overcome some of the drawbacks we are passing with conventional clustering algorithms. We named this clustering algorithm as optimized k-means clustering algorithm for image segmentation. OKM algorithm that can homogeneously segment an image into regions of interest with the capability of avoiding the dead centre and trapped centre problems. The robustness of the OKM algorithm can be observed from the qualitative and quantitative analyses.

**Keywords:** Clustering algorithms; dead center problem; Microarray processing; Image segmentation; Microarray processing.

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9. **Authors:** Er. Kiran V. Patel, Chetna M. Vyas  

**Paper Title:** Innovative Idea of Cleaner Production as a Powerful Combination of Cost Savings and Environmental Improvements  

**Abstract:** Sustainable development is a strategic choice that must be made by both developing and developed countries. For a developing country like India, the precondition for sustainable development is development. The path of relatively rapid economic growth and gradual improvements in the quality of development must be taken in order to meet people's current and future needs for basic necessities and their desires for higher living standards, and in order to consolidate the nation's strength. Only when the economic growth rate reaches and is sustained at a certain level, can poverty be eradicated, people's livelihoods improved and the necessary forces and conditions for supporting sustainable development be provided. While the economy is undergoing rapid development, it will be necessary to ensure rational utilization of natural resources and protection of the environment. Cleaner production is the continuous application of an integrated preventative environmental strategy applied to processes, products and services to increase eeciency and to reduce risks for humans and the environment.

**Keywords:** Policy, Energy, Clean, Environment, awareness, recycling, resource.

**References:**


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Authors: Gursewak Singh, Rajveer Kaur, Himanshu Sharma
Paper Title: Various Attacks and their Countermeasure on all Layers of RFID System

Abstract: RFID (radio frequency identification) system is one of the most widely used technologies due to its broad applicability and low cost. RFID systems have various advantages but still it is prone to various attacks which try to degrade the performance of the system. As RFID system is a low cost system so security become much more challenging, because as we know the usual security mechanisms are infeasible to use on low cost tags due to their resource constrains so in this paper we present some countermeasure to prevent the attacks. The main goal of this paper is to easily define individually layers attacks and their procedure to prevent them.

Keywords: RFID, countermeasures, tags, reader, attacks, layers.

References:

Authors: Pratvina Talele, Milind Penurkar, Saranga Bhutada, Harsha Talele

Paper Title: A Token based Distributed Group Mutual Exclusion Algorithm with Quorums for MANET

Abstract: The group mutual exclusion problem extends the traditional mutual exclusion problem by associating a type (or a group) with each critical section. In this problem, processes requesting critical sections of the same type can execute their critical sections concurrently. However, processes requesting critical sections of different types must execute their critical sections in a mutually exclusive manner. A distributed algorithm is used for the group mutual exclusion problem in asynchronous message passing distributed systems for MANET. This algorithm is based on tokens, and a process that obtains a token can enter a critical section. To reduce message complexity, it uses a coterie as a communication structure, when a process sends a request message. Informally, a coterie is a set of quorums, each of which is a subset of the process set, and any two quorums share at least one process. Performance of the proposed algorithm is presented. In particular, the proposed algorithm can achieve high concurrency, which is a performance measure for the number of processes that can be in a critical section simultaneously.

Keywords: Distributed systems, critical section, mutual exclusion.

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Authors: Neha P. Sathe, Vivek S. Deshpande

Paper Title: Data Dissemination Model for IP cloud through Wireless Sensor Network

Abstract: Different techniques are used to make data available from WSN through Internet, like Embedded Gateway, 6LowPAN technique etc. for the utilization. The user at any location can access the information using such techniques of WSN and IP connectivity. The sensor device is small and has low computation power and memory thus perceived as not suitable to be loaded with the high resource IP capabilities directly, which presents a significant challenge to establish such interconnection. In this paper the data dissemination model is proposed, which is having capability to provide a data from WSN in IP network compatible format. The proposed model utilizes MSP430 Microcontroller along with ZigBee module to represent the wireless sensing nodes. Embedded Gateway used will be regular computer but termed to be the embedded due to its minimum expected specific functionality requirement. Collected data is required to be preserved and made continuously available to satisfy the
need of user at any time, it will be stored along with the time stamps on the developed Web page.

Keywords: Wireless Sensor Networks, LoWPAN, MSP430, ZigBee Module, Embedded Gateway.

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5. User guide for MSP430 www.ti.com

Authors: Konijeti Meghana, Y. Madhavi Latha, V. Samson Deva Kumar, Suresh Angadi

Paper Title: Methodology of Cloud Computing

Abstract: ‘Cloud’-computing is a very popular term in this modern and computer world in IT solution which is provided as a service over the web instead of customer owning and buying the solution. It is a large group of interrelation of computers. Over a decade of research it achieves in virtualization, distributed computing, utility computing and networking. It creates service oriented architecture by providing software and platforms as services. It reduced information technology for end –user on demand services and many of the other things related to it. Technologies such as cluster, grid and Cloud computing has all aimed for providing access to large number of computer in a virtualized manner such as invisible , by collecting resources and offering single system viewing and more over in addition to that one of the main aim of these technologies is Delivering computing as a Utility. These describes a business model while consumers pay provides based on usage and it is same to as the way in which we presently obtain services from the community utility services such as Water, Electricity and telephony.

Keywords: Cloud-computing, Security, Privacy, Commentary.

References:
4. Mike P. Papazoglou, —Service -Oriented Computing: Concepts, Characteristics and Directions, Tilburg University, INFOLAB,

Authors: Gurdeep Kaur, Gaganpreet Kaur, Sushil Garg

Paper Title: A Survey on Annotation Using Natural Language Vocabulary in CBIR

Abstract: Efforts to reduce semantic gaps in CBIR is an ongoing process, numerous models have been proposed to reduce this gap, each one of these models has some advantages and some limitations. Increase in the volume of multimedia repository has further complicated the design and development of an appropriate model which can help in eliminating the semantic gap [3]. This paper examines the problems that may arise as a result of semantic gap, various models which are presently available for reducing the semantic gap [3].

Keywords: Fast Image Searching in Huge databases (FISH), fuzzydataset, Fuzzy support vector machine (FSVM), manualannotation, region of interest,semantic.

References:


#### Authors: Raj Nandini, Himadri Singh Raghav, B. P. Singh

#### Paper Title: Design of Low Power Phase Frequency Detectors for Delay Locked Loop

**Abstract:** A simple new Phase Frequency Detector design is presented in this paper. The PFD which helps Delay Locked Loop (DLL) to achieve simultaneous phase and frequency error detection is an indispensable block and plays an important role in improving the performance of the whole DLL system. Both conventional and improved PFDs are implemented using tanner 0.18 μm CMOS Process. The layouts are also designed using Tanner Tool. The maximum frequency of operation is 1 GHz when operating at 1.8V voltage supply. It can be used in DLL for high speed and low power consumption applications.

#### Keywords: CMOS Integrated Circuits, Delay Locked Loop, Phase Frequency Detector, Tanner.

#### References:

#### Authors: B. Dheeraj Reddy, K. Dinesh Kumar, R. Sudha

#### Paper Title: Techno-Commercial Aspects of Superconducting Transformers – A Case Study

**Abstract:** On invention of High Temperature Superconductors (HTS), there is a widespread talk that superconducting transformers can now be used extensively. But there are problems like lack of a suitable superconductor, cryogenic coolers and behavior of these transformers on faults and starting transients. This paper describes the problems with superconducting transformer technology. A comparative study has been done with a conventional distribution transformer (DTR) and the outcome is tabulated. The results show, that superconducting transformers can give an additional efficiency of 0.3 to 0.5% at double the cost of conventional transformer with an unacceptable payback period. Hence HTS Transformers are used where they are essential and viable. A final purpose of this paper is given to create a method of analysis that allows others to conduct quantitative or optimised modelling about the future HTS transformers.

#### Keywords: Distribution Transformer (DTR), Fault Current Limiter (FCL), Superconductor, Superconducting Transformers (SCT), High Temperature Superconductivity (HTS).

#### References:

#### Authors: K. Veeramanikandan, R. Ezhiurarasi, R. Brindha

#### Paper Title: An FPGA-Based Real-Time Face Detection & Recognition System across Illumination

**Abstract:** Automated face recognition is an interesting computer vision problem with many commercial and law enforcement applications. Mug shot matching, user verification and user access control, crowd surveillance, enhanced human computer interaction all become possible if an effective face recognition system can be implemented. This paper presents a complete real-time face recognition system consisting of face detection, recognition and a down sampling module using an FPGA. The focus is on subspace techniques, investigating the use of image Pre-processing applied as a preliminary step in order to reduce error rates. Our method is simple and fast, which makes it useful for real-time applications, embedded systems, or mobile devices with limited resources.
Abstract: After evaporation of excess water in the mortar, voids inside the mortar creates capillaries which are directly related to porosity and permeability of the mortar. Proper selection of ingredients, adequate mix proportioning & followed by good construction practices lead to almost impervious mortar. Due to incomplete compaction; mortar may consists gel pores & capillary pores, which leads to low strength of mortar. Due to problems associated with the absorption test and permeability test; which are measuring the response of mortar to pressure which is rarely the driving force of fluids entering in to mortar; hence there is a need for another type of test. Such tests should measure the rate of absorption of water by capillary suction; “sorptivity” of unsaturated mortar. In this paper, an attempt is made to study sorptivity and water absorption properties of Pozzocrete mortar. The mix design was carried out for 1:3 proportion cement mortar on the basis of IS 269:1970.
Keywords: Capillary suction, sorptivity, water absorption, Pozzocrete, mortar.

References:

Keywords: Nano-electronics, UDSM (Ultra Deep Sub-Micron) Technology, CMOS, and Scaling.

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