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# A New Architecture for Signed and Unsigned Multiplier by Using Radix-4 Process

**Abstract:** This paper presents the design and implementation of signed-unsigned Modified Booth Encoding (SUMBE) multiplier. The present Modified Encoding (MBE) multiplier and the Baugh-Wooley multiplier perform multiplication operation on signed numbers only. The array multiplier and array multipliers perform multiplication operation on unsigned numbers only. Thus, the requirement of the modern computer system is a dedicated high speed unique multiplier unit for signed and unsigned numbers. Therefore, this paper presents the design and implementation of SUMBE multiplier. The modified Booth Encoder circuit generates half the partial products in parallel. By extending sign bit of the operands and generating an equal partial product the SUMBE multiplier is obtained. The Carry Save Adder (CSA) tree and the final Carry Lookahead (CLA) adder used to up the multiplier operation. Since signed and unsigned multiplication operation is performed by the same multiplier unit the required hardware and area reduces and this in turn reduces power dissipation and cost of a system.

**Keywords:** SUMBE, MBE, CSA, CLA. Baugh-Wooley multiplier.

**References:**
- erilog hd by padbanabam.

# High Performance and Low-Power Full Adder

**Title:**

**Abstract:** Full adders (FAs) are essential for digital circuits including microprocessors, digital signal processors, and microcontrollers. Both the power absorption and the reliability of FAs are crucial as they directly affect: arithmetic logic units, floating-point units, as well as memory addresses. This paper studies the effect threshold voltage (VTH) variations play on the reliability of a classical 28-transistor FA scheme, and shows that life can be enhanced by exploiting the occupied area, and while also reducing power consumption. An enabling transistor sizing scheme is improve on reliability without increasing power consumption (as reducing and limiting currents). The proposed FA voltage in 16nm predictive technology (PTM) is significantly more reliable (six orders of magnitude in case of Cout, and three orders of magnitude in case of Sum at 10% inputs) and dissipates 38x less than a classical FA, while being 6x slower.

**Authors:** Mohammad Hassan Chamansara, Ayat Akbari, Hassan Taheri, Abdolhamid Sohrabi

**References:**
Title: Delay Analyzing Between KS, SKS, Spaning Tree and Brentkung Adders

Abstract: Adders are known to have the frequently used in VLSI designs. In digital design we have half adder and full adder, main adders by using these we can implement ripple carry adders. RCA use to perform any number of addition. In this RCA is serial adder and it has commutation delay m. If increase the ha&fa simultaneously delay also increase. That’s why we go for parallel adders (parallel prefix adders). In the parallel prefix are ks adder(kogge-stone),sk adder(sparse kogge-stone),spaning tree and brentkung adder. These adders are designed and caparisoned by using of ad delay constraints. Simulated and synthesis by model sim6.4b, Xilinx ise10.1

Keywords: selected as the indicating parameter.

For this Mat lab 7.4.0 environment has been used and Db4 taken as mother wavelet. The maximum value generate ECG waveforms by developing a suitable MATLAB simulator and in the second step, using wavelet transform, the ECG sig

Paper an algorithm has been pro

transform is studied as applications to digital signal processing. Its application to

Authors: S.A.Choukari, F.Bereksi

References

1. S. Sahambi, S. Tandon, a


Abstract:

Feed small micro strip antenna with circular polarization (CP) radiation on the edge of a patch can perform CP efficiently. The design of a single-feed small micro strip antenna with circular polarization has been employed for communication, through the use of the edge of the electromagnetic spectrum. It has been only very recent in human history that the electromagnetic spectrum, outside the visible region, has been developed into a high-frequency medium for communication devices.

This paper also gives some prospective ideas that why we can’t ignore IS-IS. IS-IS is more flexible than OSPF. This paper also describes the common aspects of electrical energy management in small- and medium-sized industries. It contains the findings and analysis of the results obtained from the electrical energy audit program employed in an industrial unit, Loknayak J.P. Narayan Shethkar Sahakari Sanstha, Untawad Hol, Shahada, Dist.-Nandurbar. The electrical energy audit was carried out under three major heads: (i) lighting audit, (ii) power load analysis, and (iii) harmonic analysis. Readings were taken under these heads and analyzed to find the scope of energy conservation opportunities in the selected test case industrial unit.

Energy audit, energy conservation opportunities, harmonic analysis, industrial unit.

Title: Energy Audit of an Industrial Unit- A Case Study

Keywords: Energy Audit, IS-IS, OSPF

References:

- Catalogue Surelink Technologies" Shenzhen, China, 2008

Title: A Single-Feed Small Circularly Polarized Square MSA and Cavity Model for Square Patch Antenna

Abstract: Communication between humans was first by sound through voice. With the desire for slightly more distance communication came, devices such as drums, then, visual methods such as signal flags and smoke signals were used. These optical communication devices, of course, utilized the light of the electromagnetic spectrum. It has been only very recent in human history that the electromagnetic spectrum, outside the visible region, has been developed into a high-frequency medium for communication devices.

This design is achieved by cutting slits in the square patch and, by adjusting the lengths of the slits; the micro strip antenna can perform CP efficiently. This design also provides a wide CP bandwidth and relaxed fabrication tolerances.

In any industry, the three top operating expenses are often found to be on energy, labor and materials. If one were to find out the potential cost savings in each of the components, energy would invariably emerge at the top, and thus energy management function constitutes a strategic area for cost reduction. This paper also describes the common aspects of electrical energy management in small- and medium-sized industries. It contains the findings and analysis of the results obtained from the electrical energy audit program employed in an industrial unit, Loknayak J.P. Narayan Shethkar Sahakari Sanstha, Untawad Hol, Shahada, Dist.-Nandurbar. The electrical energy audit was carried out under three major heads: (i) lighting audit, (ii) power load analysis, and (iii) harmonic analysis. Readings were taken under these heads and analyzed to find the scope of energy conservation opportunities in the selected test case industrial unit.

Energy audit, energy conservation opportunities, harmonic analysis, industrial unit.

Title: Energy Audit of an Industrial Unit- A Case Study

Keywords: Energy Audit, IS-IS, OSPF

References:

- Avinash Pawar
Internet Trolling in Ghana

Edward Danso Ansong, Tony Takyi, Dominic Domaoh, E. Afum Ampomah, Winfred Larkotey

Title: Internet Trolling in Ghana

Abstract: This paper presents the definition and history of internet trolling as espoused by different views and some varied ways it is practiced. A link on the Ghanaian cyber communication space and this online practice is verified and substantiated with an empirical study with regards to some media platforms. The social implications are analyzed and some recommendations are made.

Keywords: Trolling; troller; social media.

References:


Specialized Noise Control Materials in the Automotive Industry

Sharad R. Mahajan, Prasad Vilas Bapat

Title: Specialized Noise Control Materials in the Automotive Industry

Abstract: The automotive industry is currently spending millions of dollars on NVH work to develop new materials and damping techniques. The new methods are starting to consider NVH issues throughout the whole design process. This involves integrating extensive modeling, simulation, and optimization techniques into the design process to insulate both noise and vibration comfort. New materials and techniques are also being developed so that the damping treatments are lighter, cheaper, and more effective. Some of the methods used to control noise, vibration, and harshness vary according to the type of carpeting treatments, the addition of rubber or asphalt material to car panels, gap sealant, and the injection of expandable foam to the panels. The carpeting treatments include varying types of foam padding combined with different weights of rubber-backed carpet. The overall effect of this technique is a mass-spring system that acts as a vibration absorber. The rubber or asphalt materials are attached to various car panels to add weight and mass loading to reduce vibration levels and the rattling sounds from the panels. Sealant is applied to close gaps in order to increase the isolation loss from the engine, wind, and road noise sources to the vehicle interior. Expandable foam injected between panels, such as the dashboard and engine area, helps to add stiffness and vibration absorption. All of these current methods are effective at reducing sound and vibration levels in a vehicle at lower frequencies. However, some of the treatments become almost ineffective at lower frequencies below 200 Hz. The treatments also add a weight penalty to the vehicle, thus affecting its fuel economy, as well as adding cost. Choosing the correct product for your application can be easy if you properly identify the noise from the start. There are many contributors to automotive noise and the noise exists across a wide range of frequencies. To effectively reduce the noise floor within a vehicle, a combination of materials must be used. This technique will result in a reduced installation time, a serious reduction in the amount of added weight to the vehicle and the bunch of money saved in your wallet. When trying to choose or eliminate various types of automotive noise, it is often necessary to utilize a variety of specialized noise control materials.

Keywords: Noise, vibration, and harshness, Floor Barrier, vinyl barrier, Thermo-Acoustic under hood Liner, Gasketing Foam.

References:

- Value Table, Insulation Values For Selected Materials, http://coloradoenergy.org/procomer/stuff/r-values.htm
- automotive noise control - BY Zero Noise, Bend, Oregon USA, http://zeronoise.com

The narrow BW of microstrip antenna is one of the important features that restrict its wide usage. This paper presents omnidirectional trip antenna with a wide bandwidth has been designed with centre frequency of 2GHz. In order to achieve BW enhancement a rectangular structure have been introduced in the simple rectangular patch antenna with ground optimization. It has been analyzed that Broad BW of 2.46 GHz to 2 GHz is achieved & omnidirectional pattern obtained, the results were obtained using the simulation software HFSS.

Keywords: BW, rectangular microstrip patch antenna, ground variation, symmetrical cuts, return loss, radiation efficiency.

References:

- Specialized Noise Control Materials in the Automotive Industry

Valmik Kardile, Abhilasha Mishra

Title: Design & Analysis of Microstrip Patch Antenna for BW Enhancement Using Symmetrical Cuts

Abstract: The social implications are analyzed and some recommendations are made.

Keywords: social media platforms.
References

LEACH, which extend LEACH protocol by balancing the energy consumption in the network. The simulation results show that Enhanced LEACH protocol LEACH (Low Energy Adaptive Clustering Hierarchy) periodically. We propose two Secure and Efficient data Transmission (SET) protocols for CWSNs, called SET protocols to deploy the storage nodes and secure data transmission for cluster routing to implement the target block, transmitted signals and antenna location signals must be generated as inputs to target block. The target block is simulated using MATLAB Simulink, with a block diagram model. The radar system, target signal simulation, Doppler shift, movement, and frequency modulation continuous wave (FM-CW) radar.

Abstract:

The aim of the project is to implement the target block, transmitted signals and antenna location signals must be generated as inputs to target block. The target block is simulated using MATLAB Simulink, with a block diagram model. The radar system, target signal simulation, Doppler shift, movement, and frequency modulation continuous wave (FM-CW) radar.

Title: Secure Data Aggregation & Query Processing in Wireless Sensor Networks using Enhanced Leach Protocol

Authors:

Vijayalakshmi G, Hema S, Geethapriya S

Abstract:

Secure data aggregation and storage becomes very important issue in Sensor networks for future information retrieval. Storage nodes serve as an intermediate tier between sensors and a sink for storing data and processing queries in wireless sensor networks. The importance of storage nodes also makes them attractive to attackers. Data Storage is happening via the Forwarding nodes and Storage nodes. Storage nodes are introduced in this paper to collect data from the sensors in their proximities. It reduces the energy cost and communication cost induced by network query. Aim of the project is to deploy the storage nodes and secure data transmission for cluster-based WSNs (CSNs), where the clusters are formed dynamically and logically. We propose two Secure and Efficient data Transmission (SET) protocols for CWSNs, called SET-IBS and SET-IIBOS, using the IBS-Based digital Signature (IBS) scheme and the Identity-Based Online/Offline digital Signature (IBOOS) scheme, respectively. The cluster routing protocols LEACH (Low-Energy Adaptive Clustering Hierarchy) is considered and improved. We propose a clustering routing protocol named Enhanced H, which extend LEACH protocol by balancing the energy consumption in the network. The simulation results show that Enhanced LEACH forms LEACH in terms of network lifetime and power consumption minimization.

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Paper Title: The performance compared to the existing schemes, new hybrid scheme is proposed by integrating the above mentioned schemes. It is proved that the proposed hybrid technique, power mode technique, clustering technique. In each of these techniques important network performance such as connectivity and throughput. Topology control can be implemented in following ways: power mode technique, clustering technique, idle mode, sleep mode.

Keywords: Vedic mathematics, urdhva tiryakbyam sutra, karatsuba-ofman algorithm.

rs: Geethapriya S, Vijayalakshmi G, Hema S

Title: Power Consumption of Hybrid Topology Control in WSN

Abstract: A Wireless Sensor Networks (WSN) consists of spatially distributed sensor to monitor physical conditions and pass their data through network sink node. Topology control is an important technique used in WSN to achieve energy conservation and extend network lifetime without affecting network performance such as connectivity and throughput. Topology control can be implemented in following ways: power adjustment queue, power mode technique, clustering technique. In each of these techniques, there are some limitations. To overcome the limitations of the schemes, new hybrid scheme is proposed by integrating the above mentioned schemes. It is proved that the proposed hybrid approach excels in performance compared to the existing schemes in terms of energy savings.

rs: Cluster, cluster head, idle mode, sleep mode.

References:
Abstract: Microelectromechanical system based silicon pressure sensors have undergone a significant growth in the last few years. The sensitivity, full measurable pressure and linear range of pressure sensors highly depend upon the diaphragm structure. In this work, single and double diaphragm based pressure sensors are designed and simulated and these can be used for high pressure measurements. A novel method of sensitivity enhancement by optimizing the thickness of double diaphragms is presented in this work. Also a study of the bulk micromachined silicon resistive pressure sensor and surface micromachined stacked diaphragm pressure sensor are presented, simulated and compared with respect to deflection and sensitivity. Microelectromechanical system pressure sensors have been simulated with different diaphragm structures for obtaining wider range with better sensitivity. The performance of silicon and silicon on insulator pressure sensors at a given pressure are compared. The doping concentration of the piezoresistor is varied from $10^{15}$ cm$^{-3}$ to $10^{20}$cm$^{-3}$ and the sensitivity of pressure sensors are compared. Evaluating different structures of pressure sensors and optimizing doping concentrations as $10^{17}$cm$^{-3}$, the double SOI sensor shows better pressure sensitivity.

Keywords: MEMS, Piezoresistive Pressure Sensor, Surface micromachining, Bulk micro machining, Sensitivity.

References: