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1.	**Authors:**	**Shraddha Korde, Bhavik Jethwa, Ranjit Kundaram, B.W. Balkhande**	
	Paper Title:	**Embedding Encrypted Data in Video Using Symmetric Key Cryptography**	
	Abstract: Video data hiding is still an important research topic due to the design complexities involved. We propose a new video encrypted data hiding method that makes use of erasure correction capability of repeat accumulate codes and superiority of forbidden zone data hiding as well as DNA cryptography logic is used for encryption and decryption of the data. This paper also proposes a unique cipher text generation procedure as well as a new key generation procedure. DNA cryptography is one of the major concerned areas of computer and data security and a very promising direction in cryptography research. Selective embedding is utilized in the proposed method to determine host signal samples suitable for data hiding. This method also contains a temporal synchronization scheme in order to withstand frame drop and insert attacks. Finally, to demonstrate the performance of the proposed method, its implementation is explained and the results are analyzed. **Keywords:** Cipher text, Data hiding, decryption, encryption, forbidden zone data hiding, key generation, repeat accumulate codes, selective embedding, security. **References:** 1. B. Roy, G. Rakshit, P. Singha, A. Majumder and D. Datta, "An improved Symmetric key cryptography with DNA based strong cipher", Department of Computer Science and Engineering Tripura Institute of Technology, Narsingarh, Tripura, India. 2. Ersin Esen and A. Aydin Alatan, "Robust Video Data Hiding Using Forbidden Zone Data Hiding and Selective Embedding" in IEEE transactions on circuits and systems for video technology, vol. 21, no. 8, august 2011. 3. Garfinkel Simson, Web Security, Privacy & Commerce, 2nd Edition, O'Reilly Publisher, November 2001. 4. M. Wu, H. Yu, and B. Liu, "Data hiding in image and video: I. Fundamental issues and solutions," IEEE Trans. Image Process., vol. 12, no. 6, pp. 685–695, Jun. 2003. 5. M. Wu, H. Yu, and B. Liu, "Data hiding in image and video: II. Designs and applications," IEEE Trans. Image Process., vol. 12, no. 6, pp. 696–705, Jun. 2003. 6. M.M.Mansour,"A turbo-decoding message-passing algorithm for sparse parity-check matrix codes,"IEEE Trans. Signal Process.,vol. 54, no. 11,pp. 4376–4392, Nov. 2006. 7. A. Sarkar, U. Madhow, S. Chandrasekaran, and B. S. Manjunath, "Adaptive MPEG-2 video data hiding scheme," in Proc. 9th SPIE Security Steganography Watermarking Multimedia Contents, 2007, pp. 373–376. 8. K. Solanki, N. Jacobsen, U. Madhow, B. S. Manjunath, and S. Chandrasekaran, "Robust image-adaptive data hiding using erasure and error correction," IEEE Trans. Image Process., vol. 13, no. 12, pp. 1627–1639, Dec. 2004. 9. E. Esen and A. A. Alatan, "Forbidden zone data hiding," in Proc. IEEE Int. Conf. Image Process., Oct. 2006, pp. 1393–1396.	**1-5**
2.	**Authors:**	**Mohammed Hussein Baqir**	
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	Abstract: Design and construction of microcomputer for inverter controlling, this inverter is designed by using power electronics switches type MOSFET. The MOSFET's are controlled by using pulses depending on sampled sinusoidal Pulse Width Modulation (SPWM) technique with frequency ratio changing. Constant voltage to frequency (V/F) ratio is maintained through the program leading to constant flux speed range. The range of inverter output frequency is (0→50 Hz). This inverter output control the 3-ph induction motor speed. **Keywords:** MOSFET, (V/F), (O-50Hz). **References:** 1. A.P. Malvino, "Digital computer electronics an introduction to microcomputers" second edition Mc. Graw- Hill Ine. 2008. 2. M. A. AL- Taee, "Microprocessor based 3- phase PWM waveform generator" proc. Of 11th Iraq scientific engineering conf. on electrical engineering Baghdad, 1993. 3. You Lee and Y. Yith Sum, "Adaptive harmonic control in PWM inverters with fluctuating input voltage", IEEE. Trans. Ind. Electron, Vol. IE-33, NO. 1, FEB. 2009. 4. S. Muruge San, "An overview of electric motor for space application", IEEE. Trans. Ind. Electron. Vol. IECI-28, NO. 4, Nov. 2007. 5. Bowes, S. R., and Midoun. A, "Microprocessor Implementation of new optimal PWM switching strategies", IEEE. Proc, Vol. 135, Pt.B, NO. 5, Sep. 1988. 6. M. Vaarnovisky, "A microcomputer based control signal generator for a three phase switching power inverter", IEEE transaction on industry application Vol. 19, NO. 2, march 1999. 7. Intel Corporation, "Microcontroller handbook", 2010. 8. Mohammed. H. B, "Variable dc input voltage source inverter based on microcontroller" MSc. Thesis, university of technology Baghdad, 2005.	**6-10**
3.	**Authors:**	**Felix Akpagloh, Stephen E Armah, Osei-Owusu Alexander**	
	Paper Title:	**Evaluating The Financial Implication of Power Harmonics on Electricity Corporation of Ghana (ECG)'s Distribution Networks and Customers**	

Abstract: The survival and sustainability of businesses, especially in volatile developing country markets, require that businesses frugally manage input cost such as the cost of electric power. However, Power Harmonics (PH) that cause excessive dissipation of energy as heat can raise the cost of electric power for companies and for the power suppliers as well. Unknown to them, many businesses in Ghana may have been exposed to serious financial losses as a result of the presence of power harmonics in the distribution network. Such PH is essentially a negative externality caused by the users of PH producing gadgets and visited on other unsuspecting users of electric power who are essentially bystanders: a classic case of a negative externality. PH is a major contributor to the poor state of power quality internationally and have been in existence since the first alternating current generator went online more than 100 years ago. This paper presents an analysis of the financial implication of power harmonics in the distribution network of the Electricity Company of Ghana (ECG) and on customers of the company using a mixed methodology of qualitative and quantitative approaches. The results from the power system monitoring carried out confirm the presence and deleterious effects of power harmonics in the distribution network. Unfortunately, most customers are not aware of the negative effects of power harmonics. Differentiating the effect of PH from other poor power quality issues has cost consequences for most customers. Analysed results from the power system monitoring carried out shows that more than Gh¢2,396,814.00 ($1,261, 481.00 at an exchange rate ($/Ghc) of 1.9 in 2012) per annum is wasted as heat in the distribution network. There is therefore the need to introduce punitive measures against the generation of harmonics into the distribution system in order to incentivise the promulgators of PH to internalize the externality. This will ensure the survival and sustainability of businesses in Ghana's volatile and under-resourced industrial sector.

Keywords: (ECG), PH.

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4.

Authors: **Rahul Sood, Ashwani Kumar, Gurpreet Singh Batth**

Paper Title: **Experimental Utilization of 2-Ethoxy Ethyl Acetate as a Blend in a Single Cylinder CI Engine**

Abstract: In this investigating study diesel fuel was used as a reference fuel for 2-Ethoxy Ethyl Acetate –diesel blends. The blends containing 5, 10 and 15% of 2-Ethoxy Ethyl Acetate fuel by volume are tested on test rig developed for the experimentation. All the tests were conducted in steady state and were set at constant engine speed 1500 RPM. With the addition of oxygen in the fuel, it has been observed that the emission contents reduce remarkably. Moreover there is an increase in the Brake Horse Power and Brake Thermal Efficiency of the engine. So it can be concluded that the addition of 2-Ethoxy Ethyl Acetate by 10% in diesel not only helps to reduce the exhaust emission but also increases the performance of the diesel engine. 10% blend increases the BHP by 7.6% and BTE increases by 7.2 % at full load conditions. Also this blend ration decreases the CO % by 16%, HC by 11.9% and Smoke Opacity reduces by 19.11%. The experimental results prove that the use of 2-Ethoxy Ethyl Acetate fuel as a blend improves the engine operation and reduces the environmental pollution.

Keywords: 2-Ethoxy Ethyl Acetate, Oxygenated fuel, Diesel engine, Engine emission, Exhaust smoke, Carbon monoxide, Carbon dioxide, Hydrocarbon.

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5.

Authors:	**Jagpreet Singh, Ashwani Kumar, Satbir Singh Sehgal**
Paper Title:	**Experimental Studies on Heat Transfer Augmentation of a Heat Exchanger with Swirl Generators Inserts**

Abstract: Convective heat transfer characteristics within a heat exchanger with twisted tapes of different cuts and materials have been investigated experimentally. Effect of twisted tape of different cuts (square, circular and triangular) inside the inner tube of single unit on heat transfer and friction factor for heating of water for Reynolds number range 500-3000 was studied experimentally. The results obtained from the twisted inserts of GI, Al and Cu materials are compared and the experimental results reveal that the among the three different materials of inserts, Copper inserts performs better and too with square cuts.

Keywords: Heat Exchanger, Swirl Generators, Inserts, Nusselt Number, Reynolds Number

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6.

Authors:	**Rubi Choubey, Md. Arif**
Paper Title:	**Area Optimized and Low Power using Modified Booth Multiplier for Unsigned Numbers**

Abstract: Power consumption and small area is very important for fabricating DSP system and high performance system, requirement of present scenario computer system is dedicated for very high speed and low power unique multiplier unit for signed and unsigned number therefore in this paper focus on unsigned number by using modified booth multiplier. The unsigned 4 bit and 8 bit implementation done by some modification in booth multiplier modified booth multiplier come out to make efficient multiplier reduce N/2 partial product. The parallel multiplier 4 bit and 8 bit modified booth multiplier does the computation using lesser adder and lesser iterative step. The implementation of unsigned 4 bit and 8 bit done in Xilinx ISE Design suite 12.1 tool by using VHDL, model Sim.

Keywords: Array Multiplier Booth multiplier, Modified Booth Multiplier, Model Sim, Partial Product, Unsigned, VHDL, Xilinx.

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7.

Authors:	**Vedkiran Saini, Parvinder Bangar, Harjeet Singh Chauhan**
Paper Title:	**Study and Literature Survey of Advanced Encryption Algorithm for Wireless Application**

Abstract: Today increases any wireless communication security is crucial during data transmission. The encryption and decryption of data is the main challenge faced in the wireless communication for security of the data transmission source to destination. In this paper we present the literature study of cryptography security AES algorithm and its present application in communication, data communication and wireless communication. In this paper, we use the Advanced Encryption Standard (AES) which works on a 128 bit data encrypting it with 128 bits of keys for ensuring security. In this paper literature study of AES algorithm and selection AES algorithms for wireless communication application and design verilog AES sub block add round key, mix column, s-box using Xilinx ISE 9.1i software for a Spartan3 FPGA device

Keywords: Advanced Encryption Standard (AES), Rinjdael, Cryptography,

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Authors:	**M. Krupa Swaroopa Rani, G. Kiran Kumar, M. Krishnaiah, K.Kameswara Rao**	
Paper Title:	**Clutter Removal for RADAR Wind Profiler using Wavelet Thresholding**	

8.

Abstract: Atmospheric Signal processing has been one field of signal processing where there is a lot of scope for development of new and efficient tools for cleaning of the spectrum, detection and estimation of the desired parameters. The field of digital signal processing is a very active area for research and applications. Atmospheric signal processing deals with the processing of the signals received from the atmosphere when manually stimulated using atmospheric Radar. Removal of clutter in the radar wind profiler is the utmost important consideration in radar. In this paper, we implement wavelet thresholding for removing clutter from wind profiler Radar data. By applying the concept of discrete multi-resolution analysis and non-parametric estimation theory, we develop wavelet domain thresholding rules, which identify the coefficients relevant for clutter and suppress them and increases the accuracy of wind vector reconstruction.

Keywords: Clutter, Signal Processing, Wind Profiler, Wavelet Thresholding.

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	Authors:	**Sarseena C.K,Yadhu R.B**
	Paper Title:	**Fractional Fourier Domain MRI Reconstruction Using Compressive Sensing Under Different Random Sampling Scheme**

Abstract: In clinical Magnetic Resonance Imaging (MRI), any reduction in scan time offers an improvement in patient comfort problem. Compressive sensing introduces a new technique to image reconstruction from less amount of data. It will reduce imaging time in MRI. Compressive sensing exploit the sparsity of the signal. In this paper fractional Fourier is used as sparsifying transform and signal sampled using different random sampling method. Such as gaussian, bernoullie,and poisson distribution. Then MRI accurately reconstructed from very highly under sampled data using Maximum likelihood estimation.

Keywords: Compressive sensing, Fractional Fourier transform, maximum likelihood estimation

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