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1.

Authors: **Waail Mahmod Lafta Al-waely**

Paper Title: **Method for Estimating the Risk with Residual Service Life of Rolling Stock**

Abstract: In this paper we use fuzzy set method to solve one of the important problems in mechanical engineering (risk when extend the service life). The residual service life for rolling stock can change depending on it's using conditions. The Paper offer's a new method depending on fuzzy set method by using the material mechanical and chemical corrosion mathematical model to determine the residual service for rolling stock with the value of risk of it's usage in future.

Keywords: The residual service life for rolling stock can change depending on it's using conditions.

References:

1. Bellinger N.C., Komorowsky J.P., Benak T.J. Residual life predictions of corroded fuselage lap joints// Int. J. of Fatigue, 2001. - №23. – pp. 349-356.
2. Buckley J. J., Feuring T. Universal approximates for fuzzy functions// Fussy sets and systems, 2000. - №113. - pp. 411- 415.
3. Waail M. Lafta, Estimate the Residual Service Life of Rolling Stock with incompletely information, LAP LAMBERT Academic Publishing GmbH & Co. KG, Germany 2011, ISBN: 978-3-8465-2512-8.
4. Donders S., Vandepitte D., Van de Peer J., Desmet W.. The short transformation method to predict the FRF of dynamic structures subject to uncertainty// Proc. of ISMA 2004, International Conference on Noise and Vibration Engineering, Leuven, Belgium, 2004, pp. 3043-3054.
5. Hanss M., Willner K.. A Fuzzy arithmetical approach to the solution of finite element problem with uncertain parameters// Mechanics Research Communication, 2000. - Vol. 27. - No. 3. - pp. 257-272.
6. Sokolov A. M., Methods and algorithms of Fuzzy simulation of mechanical systems//Saint Petersburg,2006. ISBN 5-901739-35-3.
7. Sokolov M.M., Tretykov A.V., Morchiladze I.G. The architectonics of freight cars//Moscow 2006. ISBN 5-98788-009-2.
8. Waail M. Lafta, Analysis the Strength of Rolling Stock working in Uncertainly Conditions, LAP LAMBERT Academic Publishing GmbH & Co. KG ,Germany 2011, ISBN: 978-3-8465-9806-1.

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2.

Authors: **Somdotta Roy Choudhury, Susanta Kr. Parui, Santanu Das**

Paper Title: **Design of a Compact Wideband Log Periodic Spur Line Bandstop Filter**

Abstract: A novel technique is introduced to design a wideband, compact bandstop filter (BSF). This filter consists of a numbers of spur line resonators arranged in a log-periodic manner. The stop band of the filter is centered at 5 GHz for wireless application. Using the proposed technique the fractional bandwidth is enhanced from 7% to 68% when the individual spurline resonators are applied as log-periodic filter. There is a good agreement between the measured and simulated performances. This kind of filter is very much compact in nature as compared to the shunt-stub or coupled-line bandstop filters since the spurline structure is confined to a transmission line.

Keywords: Spur line, bandstop filter, log periodicity, wide band.

References:

1. J. S. Hong and M. J. Lancaster, "Microstrip Filters for RF/Microwave Applications," New York: Wiley, 2001, ch. 6.
2. K. yabramham ., M.K. Mandal and S. Sanyal., "Sharp-Rejection Wideband Bandstop Filters", IEEE Microwave and Wireless Components Letters, vol. 17, no. 12, December 2008, pp. 662-664.
3. M.K Mandal, K. Divyabramham and S. Sanyal, "Compact, Wideband Bandstop Filters With Sharp Rejection Characteristics", IEEE Microwave and Wireless Components Letters, vol. 18, no. 10, October 2008, pp. 665-667.
4. V.K. Velidi, A.B. Guntupalli and S. Sanyal., "Sharp-Rejection Ultra-Wide Bandstop Filters", IEEE Microwave and Wireless Components Letters, vol. 19, no. 8, August 2009, pp. 503-505.
5. M.K. Mandal, K. Divyabramham and V.K. Velidi, "Compact Wideband Bandstop Filter With Five Transmission Zeros", IEEE Microwave and Wireless Components Letters, vol. 22, no. 1, June 2012, pp. 4-6.
6. B.M. Schiffman, and G.L.Matthaei, "Exact design of band-stop microwave filters", IEEE Trans., 1964, MTT-12, pp. 6-15.
7. R. N. Bates, "Design of Microstrip Spurline Band-Stop Filters," IEE Journal on Microwaves, Optics and Acoustics, Vol. 1, pp. 209-214, Nov. 1977, pp. 209-214.
8. R.H. DuHamel and D.F. Isbell, "Broadband Logarithmically Periodic Antenna Structures", IRE National Convention Record, vol. 5, Part I, pp. 119-128, 1957.
9. R.H. DuHamel and F.R. Ore "Logarithmically Periodic Antenna Designs", IRE National Convention Record, vol. 6, Part I, pp. 139-151, 1958.

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3.

Authors: **Suha K. Shihab, Zahid A. Khan, Aas Mohammad, Arshad Noor Siddiquee**

Paper Title: **Effect of Cutting Parameters on Cutting Forces and MRR During Turning Hard Alloy Steel With and Without Coolant**

Abstract: This paper investigates the effect of different cutting parameters (cutting speed, feed rate, and depth of cut) on cutting force components and material removal rate (MRR) in dry and wet hard turning processes. The workpiece material, hardened alloy steel AISI 52100, was machined on a CNC lathe with coated carbide tool under different settings of cutting parameters. Three cutting parameters each at three levels were considered in the study. Central composite design (CCD) of experiment was used to collect experimental data for cutting force components and MRR. The results were analyzed using an effective procedure of response surface methodology (RSM) to determine optimal values of cutting parameters. Statistical analysis of variance (ANOVA) was performed to determine significance of the cutting parameters. Several diagnostic tests were also performed to check the validity of assumptions. The results indicate that cutting force components are influenced principally by the depth of cut, while the effect of both cutting speed and feed rate is small. On the other hand, the depth of cut has the most significant effect on the MRR; the cutting speed has less significant effect whereas feed rate has the lowest effect. Finally, the ranges for best cutting parameters and model equations to predict the cutting force components and MRR are proposed.

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Keywords: Cutting forces, Material removal rate, Dry turning, Castrol coolant, Hard alloy steel

References:

1. M. Remadna, and J- F. Rigal "Evolution during time of tool wear and cutting forces in the case of hard turning with CBN inserts" Journal of Materials Processing Technology, 2006, Vol.178, pp.67-75.
2. E. Aslan, N. Camuscu , and B. Birgoren "Design ptimization of cutting parameters when turning hardened AISI 4140 steel (63 HRC) with Al2O3 + TiCN mixed ceramic tool. Mater" Des., 2007, Vol.28, pp.1618-1622.
3. B.Fnides, M. A. Yallese, and H. Aouici " Hard turning of hot work steel AISI H11: Evaluation of cutting pressures, resulting force and temperature" MECHANIKA, 2008, Vol. 4, No72, pp.59-63.
4. A. Ebrahimi, and M.M. Moshksar " Evaluation of machinability in turning of microalloyed and quenched-tempered steels: Tool wear, statistical analysis, chip morphology" Journal of materials processing technology, 2009, Vol.209, pp. 910-921.
5. R.R. Malagi, and B.C. Rajesh " Factors Influencing Cutting Forces in Turning and Development of Software to Estimate Cutting Forces in Turning" IJEIT, 2012, Vol. 2, No.1, pp. 37-43.
6. R. Suresh, S. Basavarajappa, V.N. Gaitonde, and G.L. Samuel "Machinability investigations on hardened AISI 4340 steel using coated carbide insert" Int. Journal of Refractory Metals and Hard Materials, 2012, Vol.33, pp. 75-86.
7. R. Suresh , S. Basavarajappa, and G.L. Samuel "Some studies on hard turning of AISI 4340 steel using multilayer coated carbide tool" Measurement ,2012, Vol.45, pp.1872-1884.
8. M. Thomas and Y.Beauchamp " Statistical investigation of modal parameters of cutting tools in dry turning" International Journal of Machine Tools and Manufacture, 2003, Vol.43, pp.1093-1106.
9. A. K Kirillov, A. S. Vereshchaka, A. A. Kozlov, and Z. Yu. Robakidze "Dry Cutting of Hard-To-Machine Materials, with Compensation of the Physical Functions of the Lubricant and Coolant Fluid" Russ. Eng. Res.,2009, Vol.29, No.4, pp.433-437.
10. D. Jianxin, Z. Jiantou, Z. Hui, and Y. Pei "Wear mechanisms of cemented carbide tools in dry cutting of precipitation hardening semi-austenitic stainless steels" Wear ,2011, Vol.270, pp.520-527.
11. T. H. Lee " Development of a Theoretical Model to Predict Cutting Forces for Hard Machining" International Journal of Precision Engineering and Manufacturing,, 2011, Vol.12, No.5, pp.775-782.
12. T.H. Panzera, Pa. R. Souza, J. C. C. Rubio, A. M. Abrão, and T. R. Mansur "Development of a three-component dynamometer to measure turning force" Int J Adv Manuf Technol 2011, DOI 10.1007/s00170-011-3866-5.
13. A.G.F. Alabi, T.K. Ajiboye, and H.D. Olusegun "Investigating the cutting forces in heat treated medium carbon steel when turning on a lathe machine" Design and Technology, 2009, Vol.8, No.1, pp.80 - 93.
14. B. Sieben, T. Wagner, and D. Biermann " Empirical modeling of hard turning of AISI 6150 steel using design and analysis of computer experiments" Prod. Eng. Res. Devel, 2010, Vol.4, pp.115-125.
15. A.I. Fernández-Abia, J. Barreiro, L. N. López de Lacalle, and S. Martínez " Effect of very high cutting speeds on shearing, cutting forces and roughness in dry turning of austenitic stainless steels" Int J Adv Manuf Technol, 2011, Vol.57, pp.61-71.
16. P.V. Krishna, R. R Srikant, and D.N. Rao "Experimental investigation to study the performance of solid lubricants in turning of AISI1040 steel" JET, 2010, Vol.224, pp.1273-1281.
17. N. E. Stakhniv, L. N. Devin, I. A. Petrusha, and A. S. Osipov " Dynamic Phenomena in Finish Turning of Hardened Steels with cBN_Based Tools" Journal of Superhard Materials, 2009, Vol.31, No3, pp.196-202.
18. V. S. Sharma , S. Dhiman , R. Sehgal , and S. K. Sharma " Estimation of cutting forces and surface roughness for hard turning using neural networks" J Intell Manuf, 2008, Vol.19, pp.473-483.
19. HE.Xinfeng , WU Su, and H. Kratz "Forces in Hard Turning of 51CrV4 with Wiper Cutting Tool" Tsinghua Science and Technology, 2006, Vol.11, No.5, pp.501-506.
20. K. Hassan, A. Kumar, and M.P. Garg " Experimental investigation of Material removal rate in CNC turning using Taguchi method" IJ Engineering Research and Applications, 2012, Vol.2, No.2, pp.1581-1590
21. C. Courbon, D. Kramar, P. Krajnik, F .Pusavec b, J. Rech, and J. Kopac " Investigation of machining performance in high-pressure jet assisted turning of Inconel 718: An experimental study" International Journal of Machine Tools & Manufacture, 2009, Vol.49, pp.1114-1125.
22. K. Bouacha, M. A. Yallese , T. Mabrouki, and J-F. Rigal " Statistical analysis of surface roughness and cutting forces using response surface methodology in hard turning of AISI 52100 bearing steel with CBN tool"Int. Journal of Refractory Metals and Hard Materials, 2010, Vol.28, pp.349-361.
23. H. Aouici, M,A. Yallese, K. Chaoui, T. Mabrouki, and J-F. Rigal "Analysis of surface roughness and cutting force components in hard turning with CBN tool: Prediction model and cutting conditions optimization" Measurement , 2012, Vol.45, pp.344-353.
24. S.Saini, I. S. Ahuja , and V.S. Sharma "Modelling the effects of cutting parameters on residual stresses in hard turning of AISI H11 tool steel. Int J Adv Manuf Technol, 2012, DOI 10.1007/s00170-012-4206-0.
25. H. Joardar, N.S.Das, and G. Sutradhar " An experimental study of effect of process parameters in turning of LM6/SiCP metal matrix composite and its prediction using response surface methodology" International Journal of Engineering Science and Technology, 20113, Vol.8, pp.132-141.
26. B. Fnides, M. A. Yallese, T. Mabrouki, and J-F Rigal " Application of response surface methodology for determining cutting force model in turning hardened AISI H11 hot work tool steel" Sadhana, 20113, Vol.6, No.1, pp.109-123.
27. H. Aouici, M. A. Yallese, B. Fnides, K. Chaoui, and T. Mabrouki " Modeling and optimization of hard turning of X38CrMoV5-1 steel with CBN tool Machining parameters effects on flank wear and surface roughness" Journal of Mechanical Science and Technology, 2011, Vol.25, pp.2843-2851.
28. S. D. Renzo, P. A. Marques, G. Ambrogio, D. Umbrello, P. M. Saraiva, and J. G. Requeijo " White and Dark Layer Analysis Using Response Surface Methodology" International Journal Total Quality Management and Excellence, 2012, Vol.39, No.4, pp.1335-1340.
29. A. Srinivasan, R.M. Arunachalam, S. Ramesh and J.S. Senthilkumaar " Machining Performance Study on Metal Matrix Composites-A Response Surface Methodology Approach" American Journal of Applied Sciences, 2012, Vol.9, No.4, pp.478-483.

4.

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Paper Title: **Improvement of the Oscillation Frequency Characteristic of Conventional Voltage Controlled Ring Oscillator**

Abstract: A new design of a Voltage Controlled Ring Oscillator is proposed in this paper in order to improve the oscillation frequency characteristic. The structure and the operation of proposed Voltage Controlled Ring Oscillator have been described. The new VCO is implemented and simulated by using ADS platform with 0.35µm AMS CMOS technology; this circuit uses relatively small devices dimensions and low power supply 2V to operate in a large range frequency. In addition, the proposed structure enables the output signal of the VCO to oscillates between ‘‘0’’ and ‘‘1’’ for each input value of control voltage Vinvco, varied between 0V to 1,3V, which is difficult to get from the Conventional Voltage Controlled Oscillator. Input control voltage of VCO, Vinvco, it is the analog voltage generated from the Loop Filter if a Voltage Controlled Oscillator circuit is use in Phase Locked Loops (PLLs) systems.

Keywords: Voltage Controlled Oscillator, Voltage Controlled Ring Oscillator, CMOS Inverters, Simple Mirror Current.

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References:

1. D.R. Sulaiman, Design and Analysis of a Second Order Phase Locked Loops (PLLs), Proceedings of the 5th WSEAS International Conference on Telecommunications and Informatics, Istanbul, Turkey, May 27-29, pp377-382, 2006.
2. Manop Thamsirianunt and Tadeusz A. Kwasniewski, Member, IEEE, “CMOS VCO’s for PLL Frequency Synthesis in GHz Digital Mobile Radio Communications”, IEEE Journal of Solid-State Circuits, Vol. 32, No. 10, October 1997.
3. Pavan Kumar Hanumolu, Member, IEEE, Gu-Yeon Wei, Member, IEEE, and Un-Ku Moon, Senior Member, IEEE, “A Wide Tracking Range Clock and Data Recovery Circuit”, IEEE Journal of Solid-State Circuits, Vol. 43, No. 2, February 2008.
4. F.M. Gardner, “Phase Lock Techniques”, 2nd ed., New York, Wiley, 1979.
5. C Park, K Jung, K Kim, K Park, S Cho, “A clock generator using voltage regulated VCO”, CISST'10 Proceedings of the 4th WSEAS international conference on Circuits, systems, signal and telecommunications Pages 171-173, 2010.
6. K.J. Kim, K.S. Jeong, S.I. Cho, “A 3.2Gb/s Clock and Data Recovery Circuit Without Reference Clock for a High-Speed Serial Data Link”, 2nd WSEAS Int. Conf. on circuits, systems, signal and telecommunications (CISST'08) Acapulco, Mexico, January 25-27,pp. 40-43, 2008.
7. Retdian, N., Takagi, S. and Fujii, N., “Voltage controlled ring oscillator with wide tuning range and fast voltage swing”, IEEE Asia- Pacific Conference, ASIC on 2002. Proceedings, pp 201 – 204, Aug. 2002.
8. F. Azais, Y. Benrand. M. Renovell, A. Ivanov, and S. Tabatabaei, “‘An All-Digital DFT Scheme for Testing Catastrophic Faults in PLLs:’ IEEE Desirn and Test of computers. pp. 60-67. 2003.
9. J. Ramesh and K.Gunavathi, A Novel Built-In Self-Test Architecture for Charge-Pump Phase Locked Loops, ICGST-PDCS Journal, Volume 7, Issue 1, May, 2007.
10. Florence Azaïs, Yves Bertrand, and Michel Renovell, André Ivanov and Sassan Tabatabaei, “An All-Digital DFT Scheme for Testing Catastrophic Faults in PLLs”, IEEE Design & Test of Computers, January–February 2003.
11. Stephen Docking, “A Method to Derive an Equation for the Oscillation Frequency of a Ring Oscillator”, A thesis presented to the University of Waterloo in fulfillment of the thesis requirement for the degree of Master of Applied Science In Electrical and Computer Engineering, Waterloo, Ontario, Canada, 2002.
12. D. Jeong et al, “Design of PLL-based clock generation circuits,” IEEE J. Solid-State Circuits, vol. 22, pp. 255-261, April 1987.

5.

Authors: **G.Prasad, N.Vasantha**

Paper Title: **Integrating a PCI IP Core to FPGA- Design and Implementation**

Abstract: High volume and high throughput rates are the need for high speed data acquisition applications. Higher efficiency and throughput is achieved by the pci bus technology. By becoming a part of the plug & play domain of the host’s operating system, no additional data transfer protocols are needed. In this paper we have used a high density field- programmable gate array (FPGA) logic along with PCI master core for high data rate data acquisition. An FPGA with embedded PCI master core serves as a programmable interface between PCI bus and a local FIFO. The application dependent controller functions as well as FIFO and PCI interfacing are handled by FPGA logic. A Linux driver was developed to interface with the core in the FPGA and achieve high bandwidth in DMA mode. This paper will first provide an overview of IP use, including the advantages and disadvantages of using IP. The use of IP will be considered from the view of satellite ground reception applications.

Keywords: Data Acquisition buses, PCI bus, DMA transactions, FIFO read out.

References:

1. J. Toledo, H.Muller, J. Buytaert, F.Bal, A.David, A.Guirao and F.J.Mora (2002), “A plug and play approach to data acquisition”, Network architecture and performance digital equipment corporation, Littleton
2. Charles Geber, Kevin Yee (2000), “Peripheral component interfaces with quick logic QL1624 FPGA”, quick logic corporation, Santa Clara.
3. Jim McManus, PCI Applications Engineer, Xilinx Inc “ Using FPGAs as a flexible PCI Interface Solution”.
4. P.Assis, P.Brogueira, L.Melo, M.Pimenta, J.c.Silva, J.Varela LIP-Lisbon, Portugal(2003), 28th International Cosmic Ray Conference. “ A PCI based data acquisition system for Ground Array Detectors with Wireless Synchronization Through GPS”.
5. David Robinson, Patrick Lysaght, Gordon M cGregor and Hugh Dick “ Performance Evaluation of a Full Speed PCI Initiator and Target Subsystem using FPGAs”.
6. Daniel Ziener, Jurgen Teich “ Power Signature Watermarking of IP Cores for FPGAs.
7. Toledo, J. Dept. of Electron. Eng., Univ. Politecnica de Valencia Muller, H Buytaert, J. Bal, F David, A Guirao, A.MoraF.June 2002. “ A Plug and Play to Data Acquisition”.
8. Haber .J (2003).” Using a commercial IP core in space flight avionics. Lessons learned”.
9. Pillem Ramesh, Venkata Aravind Bezawada, K S N Vittal, Dr. Fazal Noorbasha (2012).” Design of 64-bit Peripheral Component Interconnect Bus at 66MHz”.
10. Nupur Shah, Design Engineer, Xilinx “The Challenges of Doing a PCI Design in FPGAs”.
11. S. Palanivelu, J.Shanmugam Prof and Head, Division of Avionics, Madras Institute of Technology, Chrompet, Chennai “Design and Development of PCM Decommutator with PCI –Interface.”
12. Altera Master Core IP Mt64 User Guide.
13. On-Chip FIFO Memory Core in Volume 5: Embedded Peripherals of the Quartus II
14. Memory System Design from Altera Corporation February 2010.
15. Stratix Device Handbook, Volume 1 July 2005.

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6.

Authors: **Mohammed Arafa, Samir Shihada, Abdulla Al Madhoun**

Paper Title: **Mechanical Properties of Ultra High Performance Fiber Reinforced Self Compacted Concrete**

Abstract: The main goal of this research is to produce Ultra High Performance Fiber Reinforced Self Compacting Concrete (UHPFRSCC) in Gaza Strip, using materials that are available at the local markets. To meet this purpose, twelve trial mixes are used to obtain acceptable fresh and hardened properties of self-compacting concrete with a compressive strength exceeding 170 MPa. The fresh and hardened mechanical properties of UHPFRSCC like, workability, self-compacting properties, compressive strength, split cylinder strength and flexural strength are studied. The effects of using different amounts of steel fiber and silica fume contents on these properties are also investigated.

Results show that it is possible to produce UHPFRSCC in Gaza Strip using materials that are available at the local markets if they are carefully selected and they will achieve a minimum compressive strength of 170 MPa at 28 days. This is expected to provide the local construction industry with a feasible new type of concrete which can be used for rehabilitation and strengthening purposes.

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Keywords: Ultra High Performance Concrete, Steel Fibers, Self-Compacting, V-funnel.

References:

1. Habel A., Viviani M., Denarié E and Brühwiler E., 2006, Development of the mechanical properties of an ultra high performance fiber reinforced concrete (UHPFRC), Cement and Concrete Research, Vol. 36, No. 7, pp: 362-1370.
2. doi:10.1016/j.cemconres.2006.03.009
3. Kim D., Park S., Ryu G. and Koh K., 2011, Comparative flexural behavior of ultra high performance fiber reinforced concrete with different macro fibers, Construction and Building Materials, Vol. 25, No. 11, pp: 4144-4155.
4. doi.org/10.1016/j.conbuildmat.2011.04.051
5. Pająk M. and Ponikiewski T., 2013, Flexural behavior of self-compacting concrete reinforced with different types of steel fibers, Construction and Building Materials, Vol. 47, pp:397-408.
6. doi.org/10.1016/j.conbuildmat.2013.05.072
7. Aslani F. and Nejadi S., 2012, Mechanical properties of conventional and self –compacting concrete: An analytical study, Construction and Building Materials, Vol. 36, pp: 330-347.
8. doi.org/10.1016/j.conbuildmat.2012.04.034
9. Deeb R., Ghanbari A. and Karihaloo B.L., 2012, Development of self-compacting high and ultra high performance concretes with and without steel fibres, Cement and Concrete Composites, Vol. 34, No. 2, pp: 185-190.
10. doi.org/10.1016/j.cemconcomp.2011.11.001
11. Ferrara L., Bamonte P., Caverzan A., Musa A. and Sanal I., 2012, A comprehensive methodology to test the performance of steel fibre reinforced self-compacting concrete (SFR-SCC), Construction and Building Materials, Vol. 37, pp: 406-424.
12. doi.org/10.1016/j.conbuildmat.2012.07.057
13. Benjeddou O., Ben Quezdo M. and Bedday A., 2007, Damaged RC beams repaired by bonding of CFRP laminates, Construction and Building Materials, Vol. 21, No. 6, pp: 1301-1310.
14. doi.org/10.1016/j.conbuildmat.2006.01.008
15. Jummat M., Kabir M., Obaydollah M., 2006, A review of the repair of reinforced concrete beams, J. Applied Science Research, Vol. 2, No. 6, pp: 317-326.
16. Pacheco-Torgal F, Abdollahnejad Z., Miraldo S., Karahan S., Baklouti S. and Ding Y., 2012, An overview on the potential of geopolymers for concrete infrastructure rehabilitation, Construction and Building Materials, Vol. 36, No. 6, pp: 1053-1058.
17. http://dx.doi.org/10.1016/j.conbuildmat.2012.07.003

7.

Authors: **Sharmila Subudhi**

Paper Title: **Designing a Hybrid Page Ranking Algorithm for Semantic Web Search Engine**

Abstract: Web is the most important tool in now-a-days upon which people rely on to search their required information. In such a scenario it is the duty of service provider to provide proper, relevant and quality information to the internet where user can submit their query and find out the result. But it is a challenge for service provider to provide proper, relevant and quality information to the internet user by using the web page contents and hyperlink between the web pages. The next-generation Web architecture, represented by the Semantic Web, provides the layered architecture possibly allowing overcoming this limitation. Several search engines have been proposed, which allow increase in information retrieval accuracy by exploiting keywords and their relations. This paper deals with a hybrid approach of page ranking algorithm which simply based on the prediction and calculation of different numbers of back-links to a web page.

Keywords: Semantic web, Page rank, HITS, Search engine, Back-link predictor.

References:

1. N. Duhan, A. K. Sharma and K. K. Bhatia, "Page Ranking Algorithms: A Survey, Proceedings of the IEEE International Conference on Advance Computing, 2009.
2. M. G. da Gomes Jr. and Z.Gong, "Web Structure Mining: An Introduction", Proceedings of the IEEE International Conference on Information Acquisition, 2005.
3. S. Brin, L. Page, "The Anatomy of a Large Scale Hypertextual Web search engine," Computer Network and ISDN Systems, Vol. 30, Issue 1- 7, pp. 107-117, 1998.
4. J. Kleinberg, "Authoritative Sources in a Hyper-Linked Environment", Journal of the ACM 46(5), pp. 604-632, 1999.
5. Wenpu Xing and Ali Ghorbani, "Weighted PageRank Algorithm", In proceedings of the 2nd Annual Conference on Communication Networks & Services Research, PP. 305-314, 2004.
6. Ali Mohammad Zareh Bidoki and Nasser Yazdani, "DistanceRank: An Intelligent Ranking Algorithm for Web Pages", Information Processing and Management, 2007, pp-22.
7. "Relation-Based Page Rank Algorithm for. Semantic Web Search Engines", In IEEE Transaction of KDE, Vol. 21, No.1, pp-20-30, Jan 2009.

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8.

Authors: **Krishan Kumar Gupta, Raj Kumar, Harendra Kumar, Medha Sharma**

Paper Title: **Study on Effect of Surface Texture on the Performance of Hydrodynamic Journal Bearing**

Abstract: The present study examines effect of surface texture on hydrodynamic journal bearing performance. The work is divided into two steps: 1. Mechanical indentation texturing technique used to incorporate the micro-dimples on bearing surface. 2. Experimentation on smooth and textured journal bearing with two oil inlet holes located at ± 90° to load line, to examine the effect of surface texture. A series of experimental results are presented, the effect of micro-dimples on pressure distribution on center plane of smooth and textured journal bearing at different loads and speeds. The Experimental results show that the pressure increases when surface texture (micro-dimples) is added on bearing surface. It is observed that with the increase of loads (200N to 800N) at constant speed and constant oil supply pressure, the percentage increase of maximum pressure (% Pmax) is more in textured journal bearing w.r.t smooth journal bearing and with the increase of speeds (1000 rpm to 3000 rpm) at constant load and constant oil supply pressure, percentage increase of maximum pressure (% Pmax) is more in textured journal bearing w.r.t smooth journal bearing.

Keywords: Journal bearing, surface texture, bearing performance, pressure distribution in journal bearing

References:

49-54

1. Sinanoglu, C., Nair, F., and Karamis, M.B., 2005, “Effects of shaft Surface Texture on Journal Bearing pressure distribution”, Journal of Materials Processing Technology 168,344–353.
2. Tala-ighil, N., Maspeyrot, P., Fillon, M., and Bounif, A., 2007, “Effect of Surface Texture on Journal Bearing characteristics under steady state operating conditions.
3. Cupillard, S., Glavatskih, S., and Cervantes, M.J., 2008, “CFD Analysis of Journal Bearing with Surface Texturing”, ”, Proc. Instn Mech. Engrs, Part J: J. Engineering Tribology, Vol. 222, 97-107.
4. Cupillard, S, 2009, “Thermohydrodynamics of Sliding Contacts with Textured Surfaces” PhD’s thesis, Lulea University of Technology, Lulea, Sweden.
5. Suh, M.S., Chae, Y., Kim, S.S., 2010, “Effect of geometrical parameters in micro-grooved crosshatch pattern under lubricated sliding friction”, Tribology International 43, 1508–1517.
6. Etsion, I., 2005, “State of the art in Laser Surface Texturing”, Journal of Tribology, 127(1), 248–253.
7. Etsion, I., 2004, “Improving tribological performance of mechanical components by Laser Surface Texturing”, Tribology letters, 17(4), 733–737.
8. Etsion, I., Halperin, G., and Kligerman. Y., 2004, “Experimental investigation of Laser Surface Textured parallel Thrust Bearings”, Tribology Letters, Vol. 17
9. Vilhena, L.M., Podgornik, B., Vižintin, J., 2010, “Influence of Texturing parameters and contact conditions on tribological behaviour of Laser Textured Surfaces”, Meccanica DOI 10.1007/s11012-010-9316-x.
10. H.L. Costa, I.M. Hutchings, 2009, “Development of a maskless electrochemical texturing method” journal of materials processing technology 209, 3869–3878.
11. K. Fukui, Y. lnomata, K. Shirasawa, 1997, “Surface Texturing Using Reactive Ion Etching for Multicrystalline Silicon Solar Cells” 26th PVSC, 0-7803-3767-0/97.
12. Xiaolei Wang and Koji Kato, 2002, “Improving the anti-seizure ability of SiC seal in water with RIE Texturing” Tribology Letters, Vol. 14, No. 4Stepien, P., 1989, “Generation of Regular Patterns on Ground Surfaces”, CIRP Ann., 38(1), 561–566.
13. Lu, X., and Khonsari, M.M., 2007, “An Experimental Investigation of Dimple Effect on the Stribeck Curve of Journal Bearings”, Tribology Letter 27,169–176.
14. Wakuda, M., Yamauchi, Y., Kanzaki, S., 2003, “Effect of Surface Texturing on friction reduction between ceramic and steel materials under lubricated sliding contact”, Wear 254,356–363.
15. Stepien, P., 2009, “Regular Surface Texture Generated by Special Grinding Process”, Journal of Manufacturing Science and Engineering, Vol. 131 / 011015-1.
16. Stepien, P., 2009, “Regular Surface Texture Generated by Special Grinding Process”, Journal of Manufacturing Science and Engineering, Vol. 131 / 011015-1.
17. Greco, A., Raphaelson, S., 2009, “Surface Texturing of Tribological Interfaces Using the Vibromechanical Texturing Method”, Journal of Manufacturing Science and Engineering, Vol. 131 / 061005-1.
18. M. Vrbka, O. Samanek, P. Sperka, T. Navrat, I. Krupka, M. Hartl,2010, “Effect of surface texturing on rolling contact fatigue within mixed lubricated non-conformal rolling/sliding contacts” Tribology International 43 , 1457–1465.
19. Clauser, H.R., 1948, Bearing Metals. (Materials and Methods Manual 40), Mater, Methods, Vol. 28, 75-86.
20. Booser, E.R., 1966, Bearing Materials and Properties. Mach. Des., Vol. 38, 22-28.
21. Engineering Sciences Data Unit (ESDU), 1984, Properties of common Engineering Materials.
22. Gethin, D.T., 1987, “Effect of loading direction on the performance of Twin-Axial Groove Cylindrical-Bore Bearing”, Tribology International Vol. 20, 179-185.

9.

Authors:	**Naeem Naik, L.M R.J. Lobo**
Paper Title:	**A Personalized Search Using User’s- Profile**

Abstract: Users’ interest is an important area in the field of IR that attempts to adapt ranking algorithms so that the results returned are tuned towards the searcher's interests. In this work we use user data to build personalized ranking models in which user profiles are constructed based on the user’s tagging data over a topic space. However, instead of employing a human-generated ontology, we use novel latent topic models to determine these topics. This means that the topic space used is determined based purely on the tagging data itself and therefore does not require human involvement to determine the topics.

Our experiments show that by introducing user profiles as part of the ranking algorithm, rather than by re-ranking an existing list, we can provide personalized ranked lists of documents which improve significantly over a non-personalized baseline. Further examination shows that the performance of the personalized system is particularly good in cases where prior knowledge of the search query is limited. This is especially useful as these are the cases where we are unable to determine when same tag has totally different intention.

Keywords: image search, metadata, optimization,

55-57

References:

1. Agrawal, R., & Srikant, R. (1994). Fast algorithms for mining association rules. In Bocca, J. B., Jarke, M. & Zaniolo, C. (Eds.), Proceedings of the 20th Int. Conf. Very Large Data Bases, VLDB (pp. 487— 499).
2. J. Teevan, S. T. Dumais, and E. Horvitz. Potential for personalization. ACM Trans. Comput.-Hum. Interact. 17(1):4:1{4:31, Apr. 2010.
3. Z. Dou, R. Song, and J.-R. Wen. A large-scale evaluation and analysis of personalized search strategies. Proceedings of the 16th international conference on World Wide Web, pages 581{590, 2007.
4. Morgan Harvey et al, “Building User Profiles from Topic Models for Personalised Search”
5. P. A. Chirita, W. Nejdl, R. Paiu, and C. Kohlschutter. Using odp metadata to personalize search. In Proceedings of the 28th annual international ACM SIGIR conference on Research and development in information retrieval, SIGIR '05, pages 178{185, New York, NY, USA, 2005. ACM.
6. S. Gauch, J. Cha_ee, and A. Pretschner. Ontology-based user pro_les for search and browsing. WIAS, pages 219{234, 2003.
7. Sieg, B. Mobasher, and R. Burke. Web search personalization with ontological user pro_les. In Proceedings of the sixteenth ACM conference on Conference on information and knowledge management, CIKM '07, pages 525{534, New York, NY, USA, 2007. ACM.
8. S. Wedig. A large-scale analysis of query logs for assessing personalization opportunities. In Proceedings of KDD '06, pages 742{747, 2006.
9. Wood, K. R., Richardson, T., Bennett, F., Harter, A., & Hopper, A. (1997). Global teleporting with Java: toward ubiquitous personalized computing. Computer, 30(2), 53-59.

10.

Authors:	**Okhaifoh, Joseph Ebosetale, Oko-Oboh, Akhere Angus, Umayah, Erhiega N.**
Paper Title:	**Single Polarized Microstrip Antenna Design for Mobile Communication Base Station**

Abstract: A single linear polarized antenna array element used in telecom base station is presented. It is of a

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considerable interest in broadband antenna element since it is simple to construct and also used as a low cost based station antenna designed for mobile communication system. In this paper, design and simulation was done through the use of 3D EM CST microwave studio and the results shows that high gain, low profile, wider bandwidth of operation, high isolation and low voltage standing wave ratio was achieved.

Keywords: Microstrip antenna, Mobile Communication, low profile, isolation, patch

References:

1. B. Salvatore, et. al "Smart Antenna System Analysis, Integration and Performance for Mobile Ad-Hoc Networks (MANETs)", IEEE Transactions on Antennas and Propagations, Vol. 50, No. 5, May 2002.
2. ,T.A. Ari and K. Mika, "Smart-Antenna Operation for Indoor Wireless Local-Area Networks Using OFDM", IEEE Transactions Wireless Communications, Vol. 2, No. 2, March 2003.
3. C.A. Balanis, "Antenna Theory, Analysis and Design", 7th Edn., New York: John Wiley & Sons, Inc., 2006.
4. C.A. Balanis, "Antenna Theory, Analysis and Design, 2nd Edn., New York: John Wiley & Sons, Inc., 1997.
5. L.V. Blake, "Antennas. New York: John Wiley & Sons Inc., 1996.
6. R. Chatterjee, "Antenna Theory and Practice", New Delhi: Wiley Eastern Limited, 1998.
7. R.L. Freeman, "Reference Manual for Telecommunications Engineering", 2nd Edn. New York: A Wiley-Interscience Publication.
8. www.radartutorial.eu/ot.antennas/an14.en.html
9. www.Learn-About Electronics.com, 2011
10. J.L. Volakis, "Antenna Engineering Handbook", 4th edn. New York: McGraw-Hill, Inc.C.A. Balanis, "Antenna Theory, Analysis and Design", 7th Edn., New York: John Wiley & Sons, Inc., 2006.
11. G.S.N. Raju, "Antennas and Wave Propagation", Delhi: Pearson Education Limited, 2005.
12. G.V. Deng, "A Broadband Dual Polarised Antenna Element for wireless Communications", IEEE Antennas and Propagation Magazine, 2007, pp. 4717-4720.
13. P.S. Hall, "Dual Polalisation Antenna Array with Sequentially Rotated Feeding", IEE Microwaves, Antennas and Propagation 139 (5), 1992, pp. 465-471.
14. D. M. Pozar, "Microstrip Antennas: The Analysis and Design of Microstrip Antennas and Arrays", New Jersey: John Wiley and Sons, Inc, IEEE Antennas and Propagation Society, 1995.
15. M.A Smith, "Introduction to Antennas", London: Macmillan Education Ltd, 1988.
16. J. Henry, "Antenna Engineering Handbook", New York: McGraw-Hill, Inc., 1961.

11.

Authors:	**Oko-oboh, Akhere Angus, Umayah, Erhiega N., Okhaifoh, Joseph Ebosetale**
Paper Title:	**Design and Simulation of a Dual Polarized High Performance Antenna Element for Mobile Communication Base Station**

Abstract: A Dual Polarized Microstrip antenna array element for mobile telecommunication base station has a good potential for low cost base station antenna design for wireless communication. The result shows that there is increase capacity, besides; fading mitigation is put to check. The use of this type of design eliminates signal transception and result in polarization diversity and estimations.

Keywords: Dual polarized, base station, low cost, fading mitigation, polarization diversity.

References:

1. J.L. Volakis, "Antenna Engineering Handbook", 4th edn. New York: McGraw-Hill, Inc.C.A. Balanis, "Antenna Theory, Analysis and Design", 7th Edn., New York: John Wiley & Sons, Inc., 2006.
2. G.S.N. Raju, "Antennas and Wave Propagation", Delhi: Pearson Education Limited, 2005.
3. G.V. Deng, "A Broadband Dual Polarised Antenna Element for wireless Communications", IEEE Antennas and Propagation Magazine, 2007, pp. 4717-4720.
4. P.S. Hall, "Dual Polalisation Antenna Array with Sequentially Rotated Feeding", IEE Microwaves, Antennas and Propagation 139 (5), 1992, pp. 465-471.
5. D. M. Pozar, "Microstrip Antennas: The Analysis and Design of Microstrip Antennas and Arrays", New Jersey: John Wiley and Sons, Inc, IEEE Antennas and Propagation Society, 1995.
6. M.A Smith, "Introduction to Antennas", London: Macmillan Education Ltd, 1988.
7. C.A. Balanis, "Antenna Theory, Analysis and Design", 2 edn. New York: John Wiley & Son, Inc., 1997.
8. J. Henry, "Antenna Engineering Handbook", New York: McGraw-Hill, Inc., 1961.
9. R.L. Freeman, "Referene Manual for Telecommunication Engineering", 2nd edn. New York: a Wiley- Interscience Publication, 1994.
10. B. Salvatore, et. al "Smart Antenna System Analysis, Integration and Performance for Mobile Ad-Hoc Networks (MANETs)", IEEE Transactions on Antennas and Propagations, Vol. 50, No. 5, May 2002.
11. T.A. Ari and K. Mika, "Smart-Antenna Operation for Indoor Wireless Local-Area Networks Using OFDM", IEEE Transactions Wireless Communications, Vol. 2, No. 2, March 2003.
12. C.A. Balanis, "Antenna Theory, Analysis and Design", 7th Edn., New York: John Wiley & Sons, Inc., 2006.
13. L.V. Blake, "Antennas. New York: John Wiley & Sons Inc., 1996.
14. R. Chatterjee, "Antenna Theory and Practice", New Delhi: Wiley Eastern Limited, 1998.

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12.

Authors:	**Amel Boufrioua**
Paper Title:	**Analysis of L-Slot Loaded Rectangular Patch Antenna for Dual Band Operation**

Abstract: In this paper, a dual-band rectangular patch antenna is analysed and the results in terms of return loss and radiation pattern are given. It is observed that various antenna parameters are obtained as a function of frequency for different value of slot length, width and feed point; it is easy to adjust the upper and the lower band by varying these different antenna parameters. In the present work variation of substrate permittivity is also studied.

Keywords: L-shaped, Slot, patch, antenna, dual band.

67-70

References:

1. N. G. Alexopoulos, D. R. Jackson., "Fundamental superstrate (cover) effects on printed circuit antennas," IEEE Trans. Antennas Propagat., vol. 32, 1987, pp. 807–815.
2. M. K. Meshram, B. R. Vishvakarma, "Gap-coupled microstrip array antenna for wide-band operation," International Journal of Electronics, vol. 88, 2001, pp. 1161-1175.
3. J-S. Row, K. L, Wong, '"Resonance in a superstrate-loaded rectangular microstrip structure," IEEE Trans. Antennas Propagat, vol. 29,

1993, pp. 1349–1355.
4. J. A. Ansari, S. K. Dubey, P. Singh, R. U. Khan, B. R. Vishvakarma, “Analysis of U-slot loaded patch for dualband operation,” International Journal of Microwave and Optical Technology, vol. 3, 2008, pp. 80-84.
5. J. A. Ansari, A.Mishra, “Half U-slot loaded semicircular disk patch antenna for GSM mobile phone and optical communications,” Progress In Electromagnetics Research C, vol. 18, 2011, pp. 31-45.
6. D. K. Srivastava, J. P. Saini, D. S.Chauhan, “Broadband stacked H-shaped patch antenna,” International Journal of Recent Trends in Engineering, vol. 2, 2009, pp. 385-389.
7. E. Wang, J. Zheng., “A novel dual-band patch antenna for WLAN communication,” Progress In Electromagnetics Research C, vol. 6, 2009, pp. 93-102.
8. A. Boufrioua, A. Benghalia, “Effects of the resistive patch and the uniaxial anisotropic substrate on the resonant frequency and the scattering radar cross section of a rectangular microstrip antenna,” AST Aerospace Science and Technology, vol.10, 2006, pp. 217-221.
9. A. Boufrioua, “Resistive rectangular patch antenna with uniaxial substrate”, in Antennas: Parameters, Models and Applications. Chapter 6, Ed. Albert I. Ferrero, Inc. New York: Nova Publishers, 2009, pp. 163-190.

13.

Authors: **S.Ayesha Firadose, S.Khadeeja Banu**

Paper Title: **Allocation of Free Disk Blocks in UNIX using Bitmaps**

Abstract: The utility program mkfs organizes the data blocks of a file system in a linked list. Each link of the list is a disk block that contains an array of free disk block numbers, and one array entry is the number of the next block of the linked list. The file system super block contains an array that is used to cache the numbers of free disk blocks in the file system. Because of this technique, there is a wastage of memory. To overcome this disadvantage we can use bitmaps. In bitmaps only one bit can be used to indicate the status of disk block. Using this technique memory space is utilized efficiently and wastage of processor time for reading one or more disk blocks in main memory is reduced.

Keywords: disk block, super block, bit map.

References:

1. The design of UNIX operating system by Maurice J. Bach
2. Christian, K., The UNIX operating system, John Wiley & Sons Inc., New York, NY, 1983.
3. Cole, C.T., P.B. Flinn and A.B. Atlas, “An Implementation of an Extended File System for UNIX”, Proceedings of the USENIX Conference, Summer 1985, pp. 131-149.
4. Johnson, S. C. and D. M. Ritchie, “Portability of C programs and the UNIX system”, The Bell System Technical Journal, Vol. 57, No. 6, Part 2, July-August, 1978, pp. 2021-2048.
5. Kernighan, B.W., and R. Pike, The UNIX Programming Environment, Prentice-Hall, Englewood cliffs, NJ, 1984.
6. Sandberg, R., D. Goldberg, S. Kleiman, D.Walsh, and B. Lyon, “Design and Implementation of the Sun Network Filesystem” Proceedngs of the USENIX conference, Summer 1985, pp. 119-131.

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14.

Authors: **Dhanraj Katta, G.Raghotham Reddy, R. Srikanth**

Paper Title: **Level Set Based Image Segmentation Using Momentum and Resilient Propagation**

Abstract: In this paper image segmentation problems are solved by using the level set methods. Level Set Methods are involves to optimize the contour space and cost functional is minimized. Gradient descent methods are often used to solve this optimization problem since they are very easy to implement and applicable to general no convex functional. They are, however, sensitive to local minima and often display slow convergence. Traditionally, cost functional has been modified to avoid these problems. In this paper, I propose level set based image segmentation using momentum and resilient propagation. The proposed methods are very simple modifications of the basic method, and are directly compatible with any type of level set implementation. This approach consists of using the algorithmic core for processing images to detect parameter sensitivity is investigated.

Keywords: Active contour, gradient methods, image segmentation, level set method, optimization.

References:

1. R. C. Gonzalez, R. E. Woods,”Digital Image processing “ 2ndPrentice-Hall Inc, 2002.
2. L. G. Shapiro and G. C. Stockman, “ Computer Vision, ” Prentice-Hall Inc., New Jersey, 2001, pp. 279-325
3. Thord Anderson,Gunnar Lathen,Reiner lenz,and Magnus Borga,member of IEEE”Modified Gradient Search for level set Based image segmentation ”
4. M. Kass, A. Witkin, and D. Terzopoulos, “Snakes: Active contour models,” Int. J. Comput. Vis., vol. 1, no. 4, pp. 321–331, 1988.
5. L. D. Cohen, “On active contour models and balloons,” CVGIP, Image Understand., vol. 53, no. 2, pp. 211–218, Mar. 1991.
6. S. Kichenassamy, A. Kumar, P. Olver, A. Tannenbaum, and A. Yezzi, “Gradient flows and geometric active contour models,” inProc. Int. Conf. Comp. Vis., Jun. 1995, pp. 810–815.
7. V. Caselles, R. Kimmel, and G. Sapiro, “Geodesic active contours,” in Proc. IEEE Int. Conf. Comput. Vis., Jun. 1995, pp. 694–699.
8. D. Mumford and J. Shah, “Optimal approximations by piecewise smooth functions and associated variational problems,” Commun. Pure Appl Math., vol. 42, no. 5, pp. 577–685, 1989.
9. S. Osher and J. A. Sethian, “Fronts propagating with curvature-dependent speed: Algorithms based on Hamilton–Jacobi formulations,” J. Comput. Phys., vol. 79, no. 1, pp. 12–49, Nov. 1988.
10. T. Chan and L. Vese, “A level set algorithm for minimizing the Mumford–Shah functional in image processing,” in Proc. IEEE Workshop Variat. Level Set Meth. Comput. Vis., Mar. 2001, pp. 161–168.
11. T. F. Chan and L. A. Vese, “Active contours without edges,” IEEE Trans Image Process., vol. 10, no. 2, pp. 266–277, Feb. 2001.
12. S. Osher and R. Fedkiw, Level Set Dynamic Implicit Surfaces. New York: Springer-Verlag, 2003.
13. P. M. Morse and H. Feshbach, “The variational integral and the Euler equations,” in Proc. Meth. Theor. Phys., I, May 1953, pp. 276–280.
14. G. Charpiat, R. Keriven, J.-P. Pons, and O. Faugeras, “Designing spatially coherent minimizing flows for variational problems based on active contours,” in Proc. IEEE Int. Conf. Comput. Vis., vol. 2. Oct. 2005, pp. 1403–1408.
15. G. Sundaramoorthi, A. Yezzi, and A. Mennucci, “Sobolev active contours,” Int. J. Comput. Vis., vol. 73, no. 3, pp. 345–366, 2007.
16. R. B. Kearfott, Rigorous Global Search: Continuous Problems (Non-convex Optimization and Its Applications), vol. 13. Dordrecht, TheNetherlands: Kluwer, 1996.
17. S.Kirkpatrick, C. D. Gelatt, and M. P. Vecchi, “Optimization by simulated annealing,” Science, vol. 220, no. 4598, pp. 671–680, 1983.
18. [N. Metropolis, A. W. Rosenbluth, M. N. Rosenbluth, A. H. Teller, and E. Teller, “Equation of state calculations by fast computing machines,” J. Chem. Phys., vol. 21, no. 6, pp. 1087–1092, 1953.
19. D. J. Wales and J. P. K. Doye, “Global optimization by basin-hopping and the lowest energy structures of Lennard–Jones clusters

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containing up to 110 atoms," J. Phys. Chem. A, vol. 101, no. 28, pp. 5111–5116, 1997.
20. Y. N. Law, H. K. Lee, and A. Yip, "A multiresolution stochastic level set method for Mumford–Shah image segmentation," IEEE Trans. Image Process., vol. 17, no. 12, pp. 2289–2300, Dec. 2008.
21. A. Chambolle, "An algorithm for total variation minimization and applications," J. Math. Imag. Vis., vol. 20, nos. 1–2, pp. 89–97, 2004.
22. T. F. Chan, S. Esedoglu, and M. Nikolova, "Algorithms for finding global minimizers of image segmentation and denoising models," SIAM J. Appl.Math., vol. 66, no. 5, pp. 1632–1648, 2006.
23. X. Bresson, S. Esedoglu, P. Vandergheynst, J.-P. Thiran, and S. Osher, "Fast global minimization of the active contour/snake model," J. Math.Imag. Vis., vol. 28, no. 2, pp. 151–167, Jun. 2007.
24. D. E. Rumelhart, G. E. Hinton, and R. J. Williams, Learning Internal Representations Error Propagation. Cambridge, MA: MIT Press, 1986,ch. 8, pp. 318–362.
25. M. Riedmiller and H. Braun, "Rprop, description and implementation details," Inst. für Logik, Univ. Karlsruhe, Karlsruhe, Germany, Tech.
26. G. Läthén, T. Andersson, R. Lenz, and M.Borga,"Momentum based optimization methods for level set segmentation," in Proc. Int. Conf.Scale Space Variat. Meth. Comput. Vis., LNCS 5567.Jun. 2009, pp.124–136.
27. T. Andersson, G. Läthén, R. Lenz, and M. Borga, "A fast optimization method for level set segmentation," in Proc. Scandinavian Conf. Image Anal., LNCS 5575. Jun. 2009, pp. as 400–409.
28. T. Andersson, G. Läthén, R. Lenz, and M. Borga, "A fast optimization method for level set segmentation," in Proc. Scandinavian Conf. mage Anal., LNCS 5575. Jun. 2009, pp. 400–409.
29. J. Nocedal and S. J. Wright, Numerical Optimization, 2nd ed. New York:Springer-Verlag, 2006.
30. W. Schiffmann, M. Joost, and R. Werner, "Comparison of optimized backpropagation algorithms," in Proc. Eur. Symp. Artif. Neural etw., 1993, pp. 97–104.
31. R. Kimmel, "Fast edge integration," in Geometric Level Set Methods in Imaging, Vision and Graphics. New York: Springer-Verlag, 2003.
32. W. A. Gardner, "Learning characteristics of stochastic gradient descent algorithms: A general study, analysis, and critique," Signal Process., vol. 6, no. 2, pp. 113–133, Apr. 1984.
33. T. Rögnvaldsson, "On Langevin updating in multilayer perceptrons," Neural Comput., vol. 6, no. 5, pp. 916–926, 1993.
34. G. Läthén, J. Jonasson, and M. Borga, "Blood vessel segmentation using multi-scale quadrature filtering," Pattern Recognit. Lett., vol. 31, no. 8, pp. 762–767, Jun. 2010.
35. G. H. Granlund and H. Knutsson, Signal Processing for Computer Vision. Norwood, MA: Kluwer, 1995.
36. D. Peng, B. Merriman, S. Osher, H.-K. Zhao, and M. Kang, "A PDE based fast local level set method," J. Comput. Phys.,vol.155, no. 2, pp.410–438, 1999.
37. J. Sethian, "A fast marching level set method for monotonically advancing fronts," Proc. Nat. Acad. Sci. USA, vol. 93, pp. 1591–1595, Feb. 1996.
38. H.-K. Zhao, "A fast sweeping method for Eikonal equations," Math.Comput., vol. 74, pp. 603–627, May 2005.
39. J. Staal, M. Abramoff, M. Niemeijer, M. Viergever, and B. van Ginneken "Ridge based vessel segmentation in color images of the retina," IEEE Trans. Med. Imag., vol. 23, no. 4, pp. 501–509, Apr. 2004.
40. P. Jassi and G. Hamarneh, "Vascusynth: Vascular tree synthesis software," Insight J., pp. 1–12, Jan.–Jun. 2011.
41. D. Green and J. Swets, Signal Detection Theory and Psychophysics. New York: Wiley, 1966.
42. W. J. Youden, "Index for rating diagnostic tests," Cancer, vol. 3, no. 1,pp. 32–35, 1950.
43. S. Chen, G. Charpiat, and R. J. Radke, "Converting level set gradients to shape gradients," in Proc. 11th Eur. Conf. Comp. Vis., 2010, pp. 715-728.

15.

Authors: **M. W. Mustafa, R. O. Bawazir**

Paper Title: **Optimal Location of Facts for ATC Enhancement**

Abstract: According to the changes in power structure (deregulation), competitive markets became in urgent need to have ability to satisfy the rise of energy demands. However, it is limited by the existing transmission grids; therefore, the markets pay attention to have efficient utilization of the current transmission system that comes through the Available Transfer Capability (ATC) which is computed using proposed technique named by Repeated Power Flow (RPF). In order to have improvement in ATC, Flexible AC Transmission System (FACTS) devices are used to control power flow (PF), thus improve the power profile in the transmission system. In this paper, two types of controllers are used Static Synchronous Compensator (STATCOM) and Unified Power Flow Controller (UPFC). The insertion of the controller in the power system comes through determining the particular location in the transmission system; the proposed method for optimal position is called Loss Sensitivity Index (LSI). This paper is applied on 5, 14 and 24 Bus Test Systems and simulated in Power system Analysis Toolbox (PSAT) software. The proposed methods have yielded results in improvement of ATC.

Keywords: ***ATC, LSI, RPF, STATCOM, UPFC.***

References:

1. Rajabi-Ghahnavieh, M. Fotuhi-Firuzabad, M. Shahidehpour, and R. Feuillet, "A Cost/Worth Approach to Evaluate UPFC Impact on ATC," Journal of Electrical Engineering & Technology, pp. 389-399, 2010.
2. J. Stahlhut, G. Heydt, and G. Sheblé, "A stochastic evaluation of available transfer capability," in Power Engineering Society General Meeting, 2005. IEEE, 2005, pp. 3055-3061.
3. M. N. Nwohu, "Optimal Location of Unified Power Flow Controller (UPFC) in Nigerian Grid System," International Journal of Electrical and Power Engineering, vol. 4, pp. 147-153, 2010.
4. A. Kazemi, V. Vahidinasab, and A. Mosallanejad, "Study of STATCOM and UPFC controllers for voltage stability evaluated by Saddle-Node bifurcation analysis," pp. 191-195.
5. G. C. Ejebe, J. Tong, J. G. Waight, J. G. Frame, X. Wang, and W. F. Tinney, "Available transfer capability calculations," Power Systems, IEEE Transactions on, vol. 13, pp. 1521-1527, 1998.
6. H. Farahmand, M. Rashidi-Nejad, and M. Fotuhi-Firoozabad, "Implementation of FACTS devices for ATC enhancement using RPF technique," pp. 30-35.
7. Y. Xiao, Y. H. Song, C.-C. Liu, and Y. Z. Sun, "Available transfer capability enhancement using FACTS devices," Power Systems, IEEE Transactions on, vol. 18, pp. 305-312, 2003.
8. R. Srinu Naik, K. Vaisakh, and K. Anand, "Determination of ATC with PTDF using linear methods in presence of TCSC," pp. 146-151.
9. D. Menniti, N. Scordino, and N. Sorrentino, "A new method for SSSC optimal location to improve power system Available Transfer Capability," pp. 938-945.
10. M. Patel and A. Girgis, "New iterative method for Available Transfer Capability calculation," in Power and Energy Society General Meeting, IEEE, 2011, pp. 1-6.
11. North American Electric Reliability Council (NERC), "Available transfer capability—Definitions and determinations," NERC Rep., June 1996.
12. M. M. Othman, A. Mohamed, and A. Hussain, "Available transfer capability assessment using evolutionary programming based capacity benefit margin," International Journal of Electrical Power & Energy Systems, vol. 28, pp. 166-176, 2006.

80-85

13. P. W. Sauer, "Technical challenges of computing available transfer capability (ATC) in electric power systems," in System Sciences, 1997, Proceedings of the Thirtieth Hawaii International Conference on 1997, pp. 589-593.
14. D.-J. Shin, J.-O. Kim, K.-H. Kim, and C. Singh, "Probabilistic approach to available transfer capability calculation," Electric power systems research, vol. 77, pp. 813-820, 2007.
15. J. N. Manohar and J. Amarnath, "Statistical Analysis of Power System on Enhancement of Available Transfer Capability- Applying FACTS," International Journal Of Multidisciplinary Sciences and Engineering, vol. 3, 2012.
16. K. Chandrasekar and N. V. Ramana, "A Fast Computational Technique to Assess Total Transfer Capability Using Broyden – Shamanski Method," Global Journal of researches in engineering Electrical and electronical engineering, vol. 11, July 2011.
17. M. Khaburi and M. Jazaeri, "A generalized method to include series compensation in total transfer capability calculation," in Universities Power Engineering Conference, 2007. UPEC 2007. 42nd International, 2007, pp. 1199-1204.
18. S. Gerbex, R. Cherkaoui, and A. J. Germond, "Optimal location of multi-type FACTS devices in a power system by means of genetic algorithms," Power Systems, IEEE Transactions on, vol. 16, pp, 537-544, 2001.
19. G. A. Adepoju and O. A. Komolafe, "Analysis and Modelling of Static Synchronous Compensator (STATCOM): A comparison of Power Injection and Current Injection Models in Power Flow Study," International Journal of Advanced Science and Technology, vol. 36, 2011.
20. S. Tara Kalyani and G. T. Das, "Simulation of Real and Reactive Power Flow Control with UPFC Connected to A Transmission Line," Journal of Theoretical and Applied Information Technology, 2008.
21. P. Venkatesh, "Available transfer capability enhancement with FACTS devices in the deregulated electricity market," Journal of Electrical Engineering & Technology, vol. 6, pp. 14-24, 2011.
22. S. Majumdar, A. Chakraborty, and P. Chattopadhyay, "Active power loss minimization with FACTS devices using SA/PSO techniques," in Power Systems, 2009. ICPS'09. International Conference on, 2009, pp. 1-5.
23. Tyagi and S. Srivastava, "A method for optimal placement of reactive sources & reactive power procurement in competitive electricity markets," in Power India Conference, 2006 IEEE, p. 6 pp.
24. A. Samimi and M. A. Golkar, "A Novel Method for Optimal Placement of FACTS Based on Sensitivity analysis Enhancement Power System Static Security" Asian Journal of Applied Sciences, 2012.
25. N. Magaji and M. Mustafa, "Optimal location of FACTS devices for damping oscillations using residue factor," in Power and Energy Conference, 2008. PECon 2008. IEEE 2nd International, 2008, pp. 1339-1344.
26. M. A. Kamarposhti, M. Alinezhad, H. Lesani, and N. Talebi, "Comparison of SVC, STATCOM, TCSC, and UPFC controllers for static voltage stability evaluated by continuation power flow method," in Electric Power Conference, 2008. EPEC 2008. IEEE Canada, 2008, pp. 1-8.
27. F. Milano, "An open source power system analysis toolbox," Power Systems, IEEE Transactions on, vol. 20, pp. 1199-1206, 2005.

16.

Authors: **Maher Abdul Ameer, Audai Hussein Al-Abbas**

Paper Title: **Experimental and Numerical Investigations of the Effect of Net Positive Suction Head on Water Hammer In Pipeline Systems**

Abstract: In the present paper, the effect of the Net Positive Suction Head (NPSH) for the centrifugal pump in a simple pipeline system has been carried out eliminating water hammer. Both the experimental tests and numerical calculations were performed in this study to investigate the transient flow effects when the discharges change abruptly in the system. The phenomenon of transient flow is generally occurred when the sudden opening of the downstream valves are used in the pumping station or due to introducing additional parallel branches of pipelines that contain pumps. Experimentally, two operational tests with different NPSH were conducted to show the relations between the head (H) and discharge (Q). The results of these tests showed two different types of H-Q curves. The first test produced a flat H-Q curve when the water surface level in the suction tank was 4 m above the center line of the pump. While in the second test the operational case created a steep H-Q curve when the pump was used to lift 6 m from the suction tank. That is likely happened due to the decrease in a cut-off discharge point. The numerical calculations on hypothec simple pipeline system have been done for the transient flow after determining the shape of the characteristics H-Q curves produced from the experimental tests. The Darcy-Waysbach equation was used to calculate the friction losses and obtain the system resistance curve. The classical method of characteristics, which is based on the methodological analysis of the finite difference method, was executed to propagate the wave pressure in each cases examined. The numerical results were clearly showed that the wave pressure produced in the pipeline system with the flat H-Q curve is smaller than that produced in the pipeline with the steep H-Q curve. This means that the first case is significantly reduced the possibility of occurrence the water hammer phenomenon.

Keywords: Transient flow, net positive suction head, pipeline system, water hammer, centrifugal pump.

References:

1. Bruce E. Larock and Roland W. Jeppson,' Hydraulics of PipelineSystems', 2000.
2. X. Wang M. Lambert and A. R. Simpson,' Analysis of Hydraulic Transient in Pipelinewith a Leak Using Laplace Transform,' 2001.
3. Don J. Wood,' Journal of Environmental Engineering', Vol. 131, No. 8, August 1, 2005.
4. Report produced for the European Commission, 'Study on improving the efficiency of pumps', SAVA, 2001.
5. Maher Abdul Ameer,'Numerical Comparison of Transient Flow For Simple Pipeline Systems Using Time Domain and Frequency Domain Method', Al-QadisyaJornal For Engineering Sciences, Vol.5, No.2,209-224, Year 2012.
6. Randall W. Whitesides CPE, PE, Selecting a Centrifugal Pump bySystem Analysis, 2012.
7. JacquesChaurette P. Eng.' Tutorial Centrifugal Pump Systems', 2005.
8. LarryBachus and Angel Custodio,' Know and Understand CentrifugalPumps', 2003.
9. PareshGirdher and Octo Moniz,' Practical Centrifugal Pumps', 2005.
10. Robert L. Sank, Ph.D., PE,' Pumping Station Design', 1998.
11. Bryan W. Karney, 'Journal of Hydraulic Engineering', Vol. 118, No. 7, July, 1992.

86-91

17.

Authors: **G.Naveen, P.K.S.Sarvesh, B.Rama Krishna**

Paper Title: **DTC Control Strategy for Doubly Fed Induction Machine**

Abstract: This paper focuses the analysis on the control of doubly fed induction generator (DFIG) based high-power wind turbines when they operate under presence of voltage dips. The main objective of the control strategy proposed for doubly fed induction generator based wind turbines is to eliminate the necessity of the crowbar protection when low-depth voltage dips occurs. Conventional Direct Torque Control (CDTC) suffers from some drawbacks such as high torque ripple and variable switching frequency, difficulties in torque as well as flux control at very low speed. This paper is aimed to analyze DTC principles. A direct torque control strategy that provides fast dynamic response accompanies the overall control of the wind turbine. The proposed control does not totally

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eliminate the necessity of the typical crowbar protection for turbines it eliminates the activation of this protection during low depth voltage dips. The modeling of the complete system is done in MATLAB-SIMULINK. Simulation results show the proposed control strategythat mitigates the necessity of the crowbar protection during low depth voltage dips.

Keywords: doubly fed induction machine (DFIM), direct torque control (DTC), crowbar protection etc.

References:

1. Johan Morren, and Sjoerd W.H.de Haan., ―Ride through of wind turbines with doubly-fed induction generator during a voltage dip,IEEE Trans Energy Convers, vol. 20, no. 2, pp. 435-441, Jun. 2005.
2. S. Seman, J. Niiranen, and A. Arkkio, ―Ride-through analysis of doubly fed induction wind-power generator under unsymmetrical network disturbance,IEEE Trans. Power Syst. , vol. 21, no. 4, pp. 1782–1789, Nov. 2006.
3. J. Lopez, E. Gubia, P. Sanchis, X. Roboam, and L. Marroyo, ―Wind turbines based on doubly fed induction generator under asymmetrical voltage dips, IEEE Trans. Energy Convers. , vol. 23, no. 1, pp. 321–330, Mar. 2008.
4. Modeling and Real-Time Simulation of Non-Grid-Connected Wind Energy Conversion SystemJunqi Wang, Yundong Ma Automation Institute, NUAANanjing, Jiangsu, ChinaZurong Hu, Xing Yang, Automation Institute, NUAA Nanjing, Jiangsu, China.
5. X. Dawei, R. Li, P. J. Tavner, and S. Yang, "Control of a doubly fed induction generator in a wind turbine during grid fault ride-through," IEEE Trans. Energy Convers., vol. 21, no.3, pp. 750–758, Sep. 2006.
6. Dynamic Modeling of Doubly Fed Induction Generator Wind Turbines Janaka B. Ekanayake, Senior Member, IEEE, Lee Holds worth, XueGuang Wu, and Nicholas Jenkins, Senior Member, IEEE
7. Wind Farms Modeling for Short-Circuit Level Calculations in Large Power Systems. F. D. Kanellos and John Kabouris.

18.

Authors: **Vrunda A. Mahamuni, Madhuri Khambete**

Paper Title: **Background Subtraction Techniques for Moving Object Detection in Video Frames**

Abstract: Identifying moving objects is a critical task for many computer vision applications. Background subtraction approach is used to separate the moving objects from the background. Many different methods have been proposed over the recent years. This paper provides implementation of five background subtraction techniques these are , Frame differencing, Mean, Median, Single Gaussian distribution and codebook. Implemented techniques are compared based on different parameters e.g. TP rate FP rate Precision and computation time, Such a comparison can effectively guide the designer to select the most suitable technique for a given application in a principled way.

Keywords: Background modeling, BGS, BG, Foreground.

References:

1. Massimo Piccardi."Background subtraction techniques: a review", IEEE International Conference on Systems, Man and Cybernetics 2004.
2. Marek CHOVANEC, "Computer vision vehicle tracking using Background subtraction" , journal of Information, Control and Management Systems, Vol.1, (2005).
3. R.C. Jain and H.H. Nagel, "On the analysis of accumulative difference pictures from image sequences of real world scenes," IEEE Trans. on Pattern Analysis and Machine Intelligence, vol. 1, no. 2, pp. 206–213, 1979.
4. B. Tamersoy ,"Background Subtraction – Lecture Notes".University of Texas at Austin. (September 29, 2009).
5. C.R. Wren, A. Azarbayejani, T. Darrell, and A. Pentland, "Pfinder: Real-time tracking of the human body" , IEEE Transactions on PAMI, Vol. 19, no. 7, pp. 780-785, 1997.
6. Horprasert T, Harwood D, Davis LS. A statistical approach for real-time robust background subtraction and shadow detection. IEEE Frame-Rate Applications Workshop, Kerkyra, Greece; 1999.
7. Kim, K. , Chalidabhongse T. H., Harwood D, Background modeling and subtraction by codebookConstruction" Proc. Int. Conf. Image Processing, Singapore, 3061-3064, (2004).

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19.

Authors: **Balwant Kumar, N.N. Harry, Y.K. Bind, R K Pandey**

Paper Title: **Optimization of Bill of Quantities for Construction of Pre-Engineered Buildings**

Abstract: Steel construction is considered as a process that involves many related activities. Pre-Engineered buildings steel parts are required to be installed in a specific order due to structural safety requirements and to the logical sequence of erection.

Garnet shop is being constructed for the sand blasting of bogies. Sand blasting is a process for removing corrosion in iron before painting.

In Paint shop painting work in trains after blasting has been done. After painting of bogies wheels will be attached in trains in this building. Bogie shop is the biggest building of the project. It is meant for attachment of shells and shaping it into bogie and after that attachment of bogies into each other of the train. In this shop machines and tools will be fitted in trains

Shell store is constructed for the storage of shells brought here from other factories like Kapurthala. Shell means the cover part of the bogies. Transport shop is constructed for transportation purpose after complete finishing of the train. Transporting engine will come here and it will carry out the all new train from the rail coach factory.

Keywords: ***BOQ, Pre-Engineered Building, Rate Analysis.***

References:

1. Banwell,H.(1964), The placing and management of contracts for Building and Civil Engineering work,Report of Committee of Sir Harold Banwell,HMSO, London.
2. Bennett,j.and Ormedo,R.N. (1984), Simulation applied to construction projects,Construction Management and Economics,2 (3),225-63.
3. Brewer,G.(1998), The use of bills of quantities [online]. Available at:www.brewerconsulting.co.uk/cases/CJ9822CI.Htm Accessed on 25 June 2009.
4. Brook, M. (2008), Estimating and Tendering for Construction Work, Butterworth-Heinemann, Oxford.
5. Cartlidge, D. (2009), Bills of Quantities [online]. Available at:www.isurv.com/site/scripts/
6. Egan,j.(1998), Rethinking construction. London,Department of the Environment Transport and Regions.
7. Flanagan,R. and Norman,G.(1993), Risk documents.aspx?categoryID=303 Accessed on 20 June 2009.
8. Davis,P.R,Love,P.E.D and Baccarini, D,(2009Management and Construction.Blackwell Science, London.P.22.

99-101

9. Seeley, I.H. and Winfield, R. (1999), Building Quantities Explained, Macmillan Education Limited, London.
10. Skinner, D.W.H. (1979), An analysis of the utility of BOQ in the process of Building Contracting.Phd Thesis, Department of Construction and Environmental Health, University of Aston in Birmingham, UK.
11. Skoyles, E.R. (1968), Introducing Bill of Quantities, BRS current paper, CP62/68, Building Research Station, UK.
12. Smith, N.J. (1999), Managing Risk in Construction Projects, Blackwell Science.

20.

Authors: **Anyaka Boniface Onyemaechi, Okafor Charles Onyeka**

Paper Title: **Technical and Economic Potential of Photovoltaic Power Generation for Wealth Creation**

Abstract: Energy is the lifeblood of economy development around the world and global economic growth depends on adequate, reliable and affordable supplies of energy. Key foreign policy objectives, including support for democracy, trade, sustainable economic development, poverty reduction and environmental protection rely on the provision of safe, reliable and affordable energy supplies. Nigeria receives abundant solar energy that can be usefully harnessed with an annual average daily solar radiation of about 5250 Wh/m2/day. This varies between 3500 Wh/m2/day at the coastal areas and 7000 Wh/m2/day at the northern boundary. The average amount of sunshine hours all over the country is about 6.5 hours. To enhance the developmental trend there is every need to support the existing unreliable energy sector with a sustainable source of power supply. This paper shows some economic potential of renewable energy development in Nigeria. First, the lay out estimates of employment creation that renewable energy has brought and could bring to Nigeria, exploring the issue sector by sector and looking at solar, wind, mini hydro, geothermal, modern biomass, and ocean. Also, mentioning how renewable energy generation can be produced locally to generate employment. Above all, this paper lays out how renewable energy can save the government money, bring jobs to the country, create wealth, expand access to energy for the most vulnerable in poor communities, and foster national energy independence.

Keywords: Solar energy, Renewable Energy Technology (RET), Small and medium enterprises (SME), Photo Voltaic (PV).

References:

1. Ogunleye, I.O., Awogbemi, O., “Constraints to the use of solar photovoltaic as a sustainable power source in Nigeria.” American Journal of Scientific and Industrial Research Vol. 2(1): 11-16, 2010.
2. Hankins, M., “Solar Electric systems for Africa.” Common-wealth Science Council. Marlborough house, Pall mall, London, 1995.
3. Chendo, M.A.C., “Factors Militating Against the Growth of the Solar – PV Industry in Nigeria and their Removal.” Nigeria Journal of Renewable Energy. 10(1&2):151 – 158, 2002.
4. Sambo, A.S., “Renewable Energy Technology for National Development: Energy Crisis in Nigeria. The Way Forward.” Proceedings of the Annual General Meeting of the Nigerian Society of Engineers. Bauchi branch, Bauchi State,Nigeria. 2001.
5. Iwayemi, A., “Nigeria’s Dual Energy Problems: Policy Issues and Challenges.” International Association for Energy Economics, pp 17-21, 2008.
6. Sambo A.S., “Sustainable energy development in Nigeria”. Available at www.isesco.org, 2005.
7. Adeyemo S.B, “Estimation of Direct solar radiation Intensi-ties” Nigerian Society of Engineers (NSE) Technical Trans-actions. Vol.32, No.1. Pg 1-9, 1997.
8. Federal Ministry of Power and Steel, “Renewable Electricity Action Program (REAP).” Published by the International Centre for Energy, Environment and Development,[Online], available: http://www.iceednigeria.org, 2006,
9. Becker., “Solar Thermal Power Plants.” Prepared for the EUREC-Agency drafted version with status of May 03, 2000.
10. Owolabi I.E., “Solar Photovoltaic power technology: Prospects and challenges for socioeconomic empowerment in Nigeria.” Technical Paper presented to the Nigerian Society of Engineers (NSE) Ado-Ekiti branch. Pg 3-5, 2008.
11. Nasir, A., “A Technology for Helping to Alleviate the Energy Problems; Solar Energy for Cooking and Power generation.” paper presented at the 3rd annual Engineering Conference of Federal University of Technology, Minna, Nigeria, 2001.
12. Bradley, D., “Plants point the way to renewable energy”. New Sci.121: 8, 1995.
13. Sambo, A.S., Renewable Energy Technology for National Development: Status, Prospects and Policy Directions”. Proceedings of the Annual General Meeting of the Nigerian Society of Engineers. Bauchi branch, Bauchi State, Nigeria, 2001.
14. Hoff, E. and Cheney, M., “The Idea of Low Cost Photovoltaic”. Energy Journal. 93: 17, 2000.
15. David, K., Hare, G., “Applied Solar energy.” Butterworths Litho Preparation Department. Printed by Cambridge University Press, Cambridge, England, 1983.
16. Rochell, M.S., “The History of Solar power today.”[Online], available: http://enzinearticles.com, 2010.
17. Bala, E.J., Ojosu, J.O., and Umar, I.H., “Government Policies and Programmes on the Development of Solar PV Sub-sector in Nigeria”. Nigeria Journal of Renewable Energy. 8(1&2): 1-6, 2000.
18. R. J. Vidmar. (1992, August). On the use of atmospheric plasmas as electromagnetic reflectors. IEEE Trans. Plasma Sci. [Online]. 21(3). pp. 876—880. Available:

102-106

21.

Authors: **S.Ganesh Kumaran, S.Singaravelu, K.Vivekanandan**

Paper Title: **Advance Technics, Challenges and Developments in Smart Grid System**

Abstract: Smart grid is emerging power system technologies with ensured reliability, efficiency, security and interoperability. This extensive system has many features on transmission and distribution facing a lot of challenges on the constraints like integrated communication system, advance measuring and sensing system, advance control methods, advance grid components, advance interface and decision support. This paper gives about the techniques, challenges, developments on the key strategies mentioned above and based on the literary surveys made..

Keywords: smart gird control techniques, challenges, developments, integrated communication, grid control, grid components, grid system support.

References:

1. E. Sortomme, S. S. Venkata, and J. Mitra, “Micro grid protection using communication-assisted digital relays, ” IEEE Trans. Power Del., 2010, 25(4):2789–2796.
2. The Congress of the United States. Energy Independence and Security Act of 2007, an Act of the Congress of the United States of America Publ. December 2007,L. No. 110-140, H.R. 6.
3. IEEE. P2030/D7.0 draft guide for Smart Grid interoperability of energy technology and information technology operation with the electric power system EPS), and end-use applications and loads. 2011.

107-114

4. International Energy Agency. Distributed generation in liberalized electricity markets 2002.
5. R. Caldon, A. R. Patria, and R. Turri, “Optimal control of a distribution system with a virtual power plant,” Bulk Power System Dynamics and Control Conference, 2004,pages 278–284,.
6. R. H. Lasseter, “Smart distribution: Coupled micro grids,” Proc. IEEE, 2011, 99(6):1074–1082.
7. European Smart Grids Technology Platform. Vision and strategy for Europe’s electricity networks of the future, http://www.smartgrids.eu/documents/vision.pdf. 2006.
8. R. B. Bobba, K. M. Rogers, Q. Wang, H. Khurana, K. Nahrstedt, and T. J. Overbye, “Detecting false data injection attacks on DC state estimation,” the First Workshop on Secure Control Systems10, 2010, pages 1–9.
9. D. G. Hart,” Using AMI to realize the smart grid. IEEE Power and Energy Society General Meeting 2008, “ Conversion and Delivery of Electrical Energy in the 21st Century, 2008,pages 1–2.
10. R. Leon, V. Vittal, and G. Manimaran,” Application of sensor network for secure electric energy infrastructure,” IEEE Trans. Power Del., 2007 22(2):1021–1028.
11. N. Bressan, L. Bazzaco, N. Bui, P. Casari, L. Vangelista, and M. Zorzi, “The deployment of a smart monitoring system using wireless sensors and actuators networks,” IEEE SmartGridComm’10, 2010 ,pages 49–54.
12. A. Armenia and J. H. Chow, “A flexible phasor data concentrator design leveraging existing software technologies,” IEEE Trans. Smart Grid, 2010, 1(1):73–81.
13. R. J. Best, D. J. Morrow, D. M. Laverty, and P. A Crossley,” Synchro phasor broadcast over Internet protocol for distributed generator synchronization,” IEEE Trans. Power Del, 2010,25(4):2835–2841.
14. S. Barmada, A. Musolino, M. Raugi, R. Rizzo, and M. Tucci,” A wavelet based method for the analysis of impulsive noise due to switch commutations in power line communication (PLC) systems’, IEEE Trans. Smart Grid, 2011, 2(1):92–101.
15. F. J. C. Corripio, J. A. C. Arrabal, L. D. del R´ıo, and J. T. E. Munoz. “Analysis of the cyclic short-term variation of indoor power line channels,” IEEE J. Sel. Areas Commun, 2006, 24(7):1327–1338.
16. V. C. Gungor and F. C. Lambert,” A survey on communication networks for electric system automation, “Computer Networks, 2006,50(7):877–897.
17. M. McGranaghan and F. Goodman, “Technical and system requirements for advanced distribution automation”, 18th International Conference and Exhibition on Electricity Distribution, 2005, pages 1–5.
18. C. Hochgraf, R. Tripathi, and S. Herzberg, “Smart grid charger for electric vehicles using existing cellular networks and sms text messages,” IEEE SmartGridComm’10, 2010, pages 167–172.
19. B. Akyol, H. Kirkham, S. Clements, and M. Hadley,” A survey of wireless communications for the electric power system,” Prepared for the U.S. Department of Energy, 2010.
20. D. M. Britz and R. R. Miller,”Mesh free space optical systems: A method to improve broadband neighborhood area network backhaul,” Local & Metropolitan Area Networks, 2007. LANMAN 2007, 15th IEEE Workshop on , June 2007 37 - 42.
21. IEEE Workshop on Local & Metropolitan Area Networks, 2007, pages 37– 42.
22. D. Deep, B. R. Petersen, and J. Meng, “Smart microcontrollerbased iridium satellite-communication architecture for a remote renewable energy source,” IEEE Trans. Power Del, 2009, 24(4):1869–1875.
23. A. Ghassemi, S. Bavarian, and L. Lampe, “Cognitive radio for smart grid communications,” IEEE SmartGridComm’10, 2010 , pages 297–302,.
24. M. G. Kallitsis, G. Michailidis, and M. Devetsikiotis,” A framework for optimizing measurement-based power distribution under communication network constraints,” IEEE SmartGridComm’10, 2010,pages 185–190,.
25. R. N. Anderson, A. Boulanger, W. B. Powell, and W. Scott, “Adaptive stochastic control for the smart grid. Proc,” IEEE 2011, 99(6):1098 – 1115.
26. K. Clement, E. Haesen, and J. Driesen, “Coordinated charging of multiple plug-in hybrid electric vehicles in residential distribution grids,” IEEE PSCE’09, pages 1–7.
27. A. J. Conejo, J. M. Morales, and L. Baringo,” Real-time demand response model. IEEE Trans. Smart Grid,” 2010,1(3):236–242.
28. Hutson, G. K. Venayagamoorthy, and K. A. Corzine, “Intelligent scheduling of hybrid and electric vehicle storage capacity in a parking lot for profit maximization in grid power transactions,” IEEE Energy2030, 2008,pages 1–8.
29. C. Ibars, M. Navarro, and L. Giupponi,” Distributed demand management in smart grid with a congestion game,” IEEE SmartGridComm’10, 2001pages 495–500.
30. J. Han and M. Piette, “Solutions for summer electric power shortages: Demand response and its applications in air conditioning and refrigeration systems. Refrigeration,” Air Conditioning and Electric Power Machinery, 2008,29(1):1–4.
31. R. Anderson and S. Fuloria,”Who controls the off switch?,” IEEE SmartGridComm’10, 2010 ,pages 96–101.
32. H. S. Cho, T. Yamazaki, and M. Hahn, “Aero: Extraction of user’s activities from electric power consumption data,” IEEE Trans. Consum. Electron. ,2010, 56(3):2011–2018.
33. G. D´an and H. Sandberg, “Stealth attacks and protection schemes for state estimators in power systems,” IEEE SmartGridComm’10, 2010 ,pages 214–219,.
34. M. Chertkov, F. Pan, and M. G. Stepanov, “Predicting failures in power grids: The case of static overloads,” IEEE Trans. Smart Grid, 20112(1):162– 172,.
35. Y. Cai, M.-Y. Chow, W. Lu, and L. Li, “Statistical feature selection from massive data in distribution fault diagnosis,” IEEE Trans. Power
36. Syst., 2010, 25(2):642–648.
37. Li, C.-C. Liu, and K. P. Schneider, “Controlled partitioning of a power network considering real and reactive power balance,” IEEE Trans. Smart Grid, 2010 ,1(3):261–269.
38. J. Chen, W. Li, A. Lau, J. Cao, and K. Wang,” Automated load curve data cleansing in power system,” IEEE Trans. Smart Grid, 2010,1(2):213– 221.
39. T. M. Overman and R. W. Sackman, “High assurance smart grid: Smart grid control systems communications architecture,” IEEE SmartGrid- Comm’10,2010, pages 19–24.
40. R. Moreno, G. Strbac, F. Porrua, S. Mocarquer, B. Bezerra,” Making
41. room for the boom,” IEEE Power & Energy Magazine -2010,8 (5) 36.
42. E. Elbakush and A. M. Sharaf, “A Hybrid FACTS PV-Smart Grid (V2G) Battery Charging Scheme,” international jouranal of advanced renewable energy research ,2012, Vol. 1, Issue. 10, pp. 560-572.
43. National Institute of Standards and Technology. NIST framework and roadmap for smart grid interoperability standards, release 1.0, http://www.nist.gov/public/ affairs/releases/upload/smart grid interoperability final.pdf. January 2010.
44. roadmap Smart Grid InformationClearinghouse. http://www.sgiclearinghouse.org.
45. WWF. The energy report, http://wwf.panda.org/what we do/
46. footprint/climate carbon energy/energy solutions/renewable energy/
47. sustainable energy report/. 2010.
48. Amit Jain1, Mohnish Bagree,”A prepaid meter using mobile communication,” international jouranal of engineering,science and technology, 2011, Vol. 3, No. 3,pp. 160-166.
49. http://www.smartenergyuniverse.com/ami/11198-global-smart-electricity-meter-installed-base-to-double-by-2016
50. http://www.global.tdk.com/ir/tdk_at_a_glance/strategy/st03.htm
51. http://m.smartplanet.com/blog/smart-takes/275-billion-to-be-spent-on-smart-grid-in-2010-report-says/11099
52. .http://www.memoori.com/portfolio/the-smart-building-to-smart-grid-interface-business/
53. .http://www.ibm.com/smarterplanet/za/en/smart_grid/ideas/index.htm

22.	**Authors:**	**Talal K. Kassem, Ali S. Alosaimy, Ahmed M. Hamed, Mohammad Fazian**

Paper Title: **Solar Powered Dehumidification Systems Using Desert Evaporative Coolers: Review**

Abstract: This paper gives a detailed account of the general features of the major desiccant regeneration techniques and configurations of the related systems; meanwhile, attention has been paid to both technological development of solar powered regenerator, which is a key component of the liquid-desiccant dehumidification system. Studies to improve the system performance have been discussed. Benefits and conditions of the use of liquid desiccant for dehumidification purposes have been stated. It is clear from the survey that the desiccant dehumidification is more energy-efficient compared with the conventional vapor compression system. Moreover, new configurations of the solar regenerator, to improve the system performance, have been demonstrated. Some new hybrid systems that greatly expand the desiccant in residential applications, as well as effectively promoting the single system's performance, are also introduced.

Keywords: Dehumidification, Cooling, Liquid desiccant, Solar, Regenerator

References:

1. Mirunalini Thirugnanasambandam , S. Iniyan , Ranko Goic, A review of solar thermal technologies. Renewable and Sustainable Energy Reviews 14 (2010) 312–322
2. Hamed AM. Desorption characteristics of desiccant bed for solar dehumidification/humidification air conditioning systems. Renewable Energy 2003;28: 2099–111.
3. S. Patnaik, T.G. Lenz, G.O.G. Lof, Solar open cycle liquid desiccant studies, in: Proceedings of the 10th Annual ASME Solar Energy Conference, Denver, Colorado, USA, (1988), pp. 121–125.
4. L.C. Chen, C.L. Kuo, R.J. Shyu, The performance of a packed bed dehumidifier for solar liquid desiccant systems, in: Proceedings of the Eleventh Annual ASME Solar Energy Conference, San Diego, California,USA, (1989), pp. 371–377.
5. A.M. Radhwan, H.N. Gari, M.M. Elsayed, Parametric study of a packed bed dehumidifier/regenerator using CaCl2 liquid desiccant, Renewable Energy 3 (1) (1993) 49–60.
6. S. Kavasogullari, P. Gandhidasan, A. Ertas, E. Anderson, Performance of CaCl2 and LiCl liquid desiccants in a dehumidifying packed tower, ASME Emerging Technology 36 (1991) 45–49.
7. N. Fumo, D.Y. Goswami, Study of an aqueous lithium chloride desiccant system: air dehumidification and desiccant regeneration, Solar Energy 72 (4) (2002) 351–361.
8. Napoleon Enteria∗, KunioMizutani, The role of the thermally activated desiccant cooling technologies in the issue of energy and environment, Renewable and Sustainable Energy Reviews 15 (2011) 2095–2122
9. ASHRAE fundamentals. Atlanta, Georgia: American Society of Heating, Refrigerating and Air-Conditioning Engineers; 1989.
10. Lun Zhang, Xiao-Hua Liu∗, Yi Jiang, Ideal efficiency analysis and comparison of condensing and liquid desiccant dehumidification, Energy and Buildings 49 (2012) 575–583
11. L. Mei, Y.J. Dai, A technical review on use of liquid-desiccant dehumidification for air-conditioning application, Renewable and Sustainable Energy Reviews 12 (2008) 662–689
12. T. Katejanekarn and S. Kumar, Performance of a solar-regenerated liquid desiccant ventilation pre-conditioning system, Energy and Buildings 40 (2008) 1252–1267.
13. Ahmed M Hamed, T M Kassem, A S Alosaimy, E B Zeidan, Experimental performance of a liquid desiccant rotating wick regenerator under climatic conditions of Taif city, WULFENIA JOURNAL 09/2012; 19(09):223-243.
14. R.K. Collier, The analysis and simulation of an open cycle absorption refrigeration system, Solar Energy 23 (4) (1979) 357–366.
15. A. Johannsen, G. Grossman, Performance simulation of regenerating type solar collectors, Solar Energy 30 (2) (1983) 87–92.
16. G.O.G. Lof, G. Cler, T. Brisbane, Performance of a solar desiccant cooling system, in: Proceedings of the ASME-JSME-JSES Solar Energy Conference, Honolulu, Hawaii, USA, (1986), pp. 828–834.
17. PatnaikF S., T.G. Lenz, G.O.G. Lof, Experimental studies with a solar open cycle liquid–desiccant system, in: Proceedings of ISES Solar World Congress, Hamburg, Germany, (1987), pp. 1013–1018.
18. L.J. Ji, B.D. Wood, Performance enhancement study of solar collector/regenerator for open-cycle liquid desiccant regeneration, in: Proceedings of Solar'93: The 1993 American Solar Energy Society Annual Conference, Washington, D.C., USA, (1993), pp. 351–356.
19. K. Daou, R.Z. Wang, Z.Z. Xia, Desiccant cooling air conditioning: a review, Renewable and Sustainable Energy Reviews 10 (2006) 55-77.
20. Y.K. Yadav, Vapour-compression and liquid-desiccant hybrid solar space conditioning system for energy conservation, Renewable Energy 6 (7) (1995) 719–723.
21. A.A. Kinsara, M.M. Elsayed, O.M. Al-Rabghi, Proposed energy-efficient air-conditioning system using liquid desiccant, Applied Thermal Engineering 16 (10) (1996) 791–806.
22. Y.H. Zurigat, M.K. Abu-Arabi, S.A. Abdul-Wahab, Air dehumidification by triethylene glycol desiccant in a packed column, Energy Conversion and Management 45 (1) (2004) 141–155.
23. J.C. Sheridan, J.W. Mitchell, A hybrid solar desiccant cooling system, Solar Energy 34 (2) (1985) 187–193.
24. B.S. Davanagere, A. Sherif, D.Y. Goswami, A feasibility study of a solar desiccant air-conditioning system—part II: transient simulation and economics, International Journal of Energy Research 23 (1999) 103–116.
25. E.A. Vineyard, J.R. Sand, D.J. Durfee, Parametric analysis of variables that affect the performance of a desiccant dehumidification system, ASHRAE Transactions 106 (Part 1) (2000) 87–94.
26. V. Oberg, D.Y. Goswami, Experimental study of the heat and mass transfer in a packed bed liquid desiccant air dehumidifier, Journal of Solar Energy Engineering 120 (1998) 289–297.
27. Gommed K, Grossman G. Experimental investigation of a liquid desiccant system for solar cooling and dehumidification. Solar Energy 2007;81: 131–8.
28. Andrew Lowenstein Review of Liquid Desiccant Technology for HVAC Applications. HVAC&R Research 14 (6) (2008) 819-839.
29. http://www.cal-chlor.com/PDF/GUIDE-physical-properties.pdf
30. A. Ertas, E.E. Anderson, I. Kiris, Properties of a new liquid desiccant solution – lithium chloride and calcium chloride mixture, Solar Energy 49 (1992) 205–212.
31. S. Younus Ahmed, P. Gandhidasan, A.A.A.L. Farayedhi, Thermodynamic analysis of liquid desiccants, Solar Energy 62 (1998) 11–18.
32. A.A.M. Hassan, M. Salah Hassan, Dehumidification of air with a newly suggested liquid desiccant, Renewable Energy 33 (2008) 1989–1997.
33. Li Xiu-Wei, Zhang Xiao-Song, Wang Geng, Cao Rong-Quan, Research on ratio selection of a mixed liquid desiccant: Mixed LiCl–CaCl2 solution, Solar Energy 82 (2008) 1161–1171.
34. W. Pridasawas, Solar-Driven Refrigeration Systems with Focus on the Ejector Cycle, Doctoral Thesis, Stockholm, October 2006.
35. D.S. Kima, C.A. Infante Ferreira, Solar Refrigeration Options – A State-Of-The-Art Review, International Journal of Refrigeration 31 (2008) 3–15
36. Grossman G. Solar-powered systems for cooling, dehumidification and air conditioning, Solar Energy 2002; 72(1):53–62.
37. A. Kakabaev, A. Khandurdyev, Absorption solar refrigeration unit with open regeneration of Solution, Gliotekhnika 5(4) (1969) 28-32.
38. R. Yang, P.L. Wang, Experimental study of a forced convection solar collector/regenerator for open cycle absorption cooling, Trans. ASME J Solar Energy Engineering 116 (1994) 194-199.
39. G. Grossman, Solar-powered systems for cooling, dehumidification and air-conditioning, Solar Energy 72(1) (2002) 53–62.
40. M. Krause, W. Saman, K. Vajen, Open cycle liquid desiccant air conditioning systems-Theoretical and experimental investigations, in:

115-128

Proceeding of the ANZSES Conference, Dunedin, New Zealand, 2005.

41. K. Daou, R.Z. Wang, Z.Z. Xia, Desiccant cooling air conditioning: a review, Renewable and Sustainable Energy Reviews 10 (2006) 55-77.
42. J.R.KDieckmann, J. Brodrick, Liquid Desiccant Air Conditioners, ASHRA Journal, October 2008.
43. R. Yang, W.J. Yan, Simulation study for an open-cycle absorption solar-cooling system operated in a humid area, Energy 17(7) (1992) 649-655.
44. Peng CSP, Howell JR. Analysis of open regenerators for absorption cooling applications-comparison between numerical and analytical models. Sol energy 1982;28:265–8.
45. R. Yang, P.L. Wang, A simulation study of the performance evaluation of single-glazed and double-glazed collectors/regenerators for an open-cycle absorption solar cooling system, Solar energy 71(4) (2001) 263-268.
46. A. Alizadeh, W. Saman, Modeling and performance of a forced flow solar collector/regenerator using liquid desiccant, Solar Energy 72(2) (2002) 143-154.
47. K. Hsieh, Solar Energy Engineering, Prentice-Hall, Inc., Englewood Cliffs, New Jersey, USA, (1986).
48. E.Z. Zaetsev, G.G. Aseev, Physical-chemical properties of binary non-organic solutions, Khemia, Leningrad, USSR, (1988).
49. S. Alizadeh And W. Y. Saman, An Experimental Study Of A Forced Flow Solar Collector/ Regenerator Using Liquid Desiccant, Solar Energy Vol. 73, No. 5 (2002) 345–362.
50. A.E. Kabeel, Augmentation of the performance of solar regenerator of open absorption cooling system, Renewable Energy 30 (2005) 327–338.
51. Donggen Peng, Xiaosong Zhang, Modeling and performance analysis of solar air pretreatment collector/regenerator using liquid desiccant, Renewable Energy 34 (2009) 699–705.
52. M Tu , C Ren, L Zhang and J W Shao, Simulation and analysis of a novel liquid desiccant air-conditioning system, Applied Thermal Engineering 29 (2009) 2417–2425.
53. A.S. Alosaimy b, Ahmed M. Hamed, Theoretical and experimental investigation on the application of solar water heater coupled with air humidifier for regeneration of liquid desiccant, Energy 36 (2011) 3992-4001.
54. Li Yutong, Yang Hongxing, Investigation on solar desiccant dehumidification process for energy conservation of central air-conditioning systems, Applied Thermal Engineering 28 (2008) 1118–1126
55. Esam Elsarrag, Evaporation rate of a novel tilted solar liquid desiccant regeneration system. Solar Energy 82 (2008) 663–668
56. A M. Hamed, T K M Kassem, A S Alosaimy, and E B Zeidan, Experimental performance of a liquid desiccant rotating wick regenerator under climatic conditions of Taif city, Wulfenia Journal, Vol 19, No. 9 (2012).
57. Liu XH, Jiang Y, Yi XQ. Effect of regeneration mode on the performance of liquid desiccant packed bed regenerator. Renewable Energy 34:2 (2009) 09–16.
58. Hamed Ahmed M, Khalil A, Kabeel AE, Bassuoni MM, Elzahaby AM. Perfor- mance analysis of dehumidification rotating wheel using liquid desiccant. Renewable Energy 30:1(2005) 689–712.
59. A.E. Kabeel, Solar powered air conditioning system using rotary honeycomb desiccant wheel, Renewable Energy 32 (2007) 1842–1857
60. Hamed AM and Alosaimy AS. Modeling and Simulation of Desiccant Operated Humidity Pump (DOHP). Int. J. of Thermal & Environmental Engineering. Volume 4, No. 1 (2012) 39-45.
61. A. M. Hamed, “Theoretical and Experimental Study on the Transient Adsorption Characteristics of Vertical Packed Porous Bed”, Renewable Energy J 2002, Vol. 27.
62. Zeidan EB, Aly AA, HamedAM. Modeling and simulation of solar-powered liquid desiccant regenerator for open absorption cooling cycle. Solar Energy 85(11):29 (2011) 77–86.
63. Aly AA, Zeidan EB, Hamed AM. Performance evaluation of open-cycle solar regenerator using artificial neural network technique. Energy and Buildings 43(2–3) (2011) 454–467.
64. Aly AA, Zeidan EB, Hamed AM. Solar-powered open absorption cycle modeling with two desiccant solutions. Energy Conversion and Management 52(7):27(2011) 68–76.
65. W.Z. Gao, J.H. Liu, Y.P. Cheng, X.L. Zhang, Experimental investigation on the heat and mass transfer between air and liquid desiccant in a cross-flow dehumidifier, Renewable Energy 37 (2012) 117-123.
66. Al-Farayedhi Abdulghani A, Gandhidasan P, Al-Mutairi MA. Evaluation of heat and mass transfer coefficients in a gauze-type structured packing air dehumidifier operating with liquid desiccant. International Journal of Refrigeration 2002;25:330.
67. Yonggao Yin, Shuhong Li, Xiaosong Zhang, DonggenPeng, Feasibility and performance analysis of a desiccant solution regenerator using hot air, Energy and Buildings 43 (2011) 1097–1104.
68. S. Misha a,b,n, S.Mat a, M.H.Ruslan a, K.Sopian, Review of solid/liquid desiccant in the drying applications and its regeneration methods. Renewable and Sustainable Energy Reviews 16 (2012) 4686–4707.
69. Sultan GI, Hamed AM, Sultan AA. The effect of inlet parameters on the performance of packed tower-regenerator. Renewable Energy 26 (2002) (2): 228–71.
70. Li Zhang, Eiji Hihara, Fumio Matsuoka, Chaobin Dang, Experimental analysis of mass transfer in adiabatic structured packing dehumidifier/regenerator with liquid desiccant, International Journal of Heat and Mass Transfer 53 (2010) 2856–2863.
71. Giovanni A. Longo, Andrea Gasparella, Experimental analysis on desiccant regeneration in a packed column with structured and random packing, Solar Energy 83 (2009) 511–521.
72. A.E. Kabeel, Dehumidification and humidification process of desiccant solution by air injection, Energy 35 (2010) 5192-5201.
73. Agung Bakhtiar, FatkhurRokhman, Kwang Hwan Choi, A novel method to evaluate the performance of liquid desiccant air dehumidifier system, Energy and Buildings 44 (2012) 39–44.
74. Z.Q. Xiong, Y.J. Dai , R.Z. Wang, Development of a novel two-stage liquid desiccant dehumidification system assisted by CaCl2 solution using exergy analysis method, Applied Energy 87 (2010) 1495–1504.
75. N. Audah, N. Ghaddar, K. Ghali, Optimized solar-powered liquid desiccant system to supply building fresh water and cooling needs, Applied Energy 88 (2011) 3726–3736.

23.

Authors: **Muhammad Aslam Bhutto, Abdul Aziz Ansari, Noor Ahmed Memon**

Paper Title: **Prediction of Behaviour of Steel Plate Subjected to Shear**

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Abstract: Steel pate-girders are generally subjected to high shear and low bending moment. The flanges primarily resist the applied moment, while the web primarily resists the shear. A thin plate in shear is a simple representation of the dominant loading case in a slender web panel of the plate-girder and is a combination of the principal tensile and compressive in-plane stresses. The elastic and plastic behaviour of a simply supported steel plate can be predicted using the existing design theories. This paper presents the details and results of finite element analyses (FEA) carried out for a thin square steel plate subjected to pure shear. The objective is to predict the linear elastic and nonlinear plastic behaviour of the plate using the FE analyses and compare the results of the analyses to the theoretical predictions for validation. The FEA results for the elastic critical load and the ultimate plastic load of the plate were in very good agreement with the theoretical predictions. The FE analyses also predicted correctly the elastic buckling and the plastic failure modes of the plate.

Keywords: Finite element analyses, pure shear, shear buckling, steel plate, validation.

References:

1. K. C. Rockey, H. R. Evans and D. M. Porter, “A design method for predicting the collapse behaviour of plate girders”, Proceedings of Institution of Civil Engineers (ICE), 65(1), 1978, pp85-112.
2. C. L. Nilsen, M. A .O. Mydin, and M. Ramli, “Performance of lightweight thin-walled steel sections: theoretical and mathematical considerations,” Advances in Applied Science Research, 3(5), 2012, pp2847-2859.
3. M. M. Alinia, M. Shakiba, and H. R. Habashi, “Shear failure characteristics of steel plate girders”, Thin-walled Structures, 47(12), 2009, pp1498-1506.
4. L. Da. Silva, P.J. Cruz, and H.G. Asio, “A comparative assessment of the shear strength of slender steel beams,” Archives of Civil Engineering, 45(4), 1999, pp587-613.
5. A. H. Al-Saidy, F. W. Klaiber, and T. J. Wipf, “Repair of steel composite beams with carbon-reinforced polymer plates,” Journal of Composite for Construction, 8(2), 2004, pp63-172.
6. S. P. Timoshenko, and S. W. Krieger, Theory of Plates and Shells, 2nd Edition, MaGraw-Hill International Editions, Singapore, 1959.
7. N. S. Trahair, M. A. Bradford, and D. A. Nether cot, The Behaviour and Design of Steel Structures to BS5950, 3rd Edition-British, Taylor and Francis, London, United Kingdom, 2001.
8. LUSAS, version 14.3. Modeller Reference Manual, Finite Element Analyses Limited, Surrey, United Kingdom, 2008.

24.

Authors: **Ali A.Yassin, Hikmat Z. Neima, Zaid Ameen Abduljabbar, Haider Sh.Hashim**

Paper Title: **Efficient and Secure Mutual Authentication Scheme in Cloud Computing**

Abstract: Nowadays, cloud computing considers an important topic for small, medium and large e-commences alike. The security is a constitutive trouble that hinders its widespread adoption. The password authentication is a first level of security in cloud computing, aiming to guarantee that only legitimate users are allowed to be used data that stored in the cloud server. The demeanor of multi-factor authentication schemes such as token, biometric provided a promising password authentication solution. There are many challenging matters that raise fears of using multi-factor are the high cost, not easy to carry, does not provide the functionalities of revocation, and fails to resist well-known attacks such as off-line guessing password, Man-in-the-Middle (MITM) Seed-tracing. In this paper, we propose a scheme of Two-Factor Authentication (2FA) that overcomes aforementioned issues and reduces the cost. We use Zero-Knowledge and One-Time Password (OTP) to implement a Cloud-based two-factor authentication as a design paradigm. Our proposed scheme includes many security characteristics like mutual authentication, user anonymity, session key agreement, freely chosen password, no time synchronization, and has a good performance of password authentication.

Keywords: Cloud computing, Mutual Authentication, Zero-knowledge proof, Service provider, One-time password.

References:

1. S. Subashini, V. Kavitha, A survey on security issues in service delivery models of cloud computing, Journal of Network and Computer Applications 34(1) (2011)1-11.
2. D. Zissis, D. Lekkas, Addressing cloud computing security issues, Future Generation Computer Systems 28 (2012) 583-592.
3. Md. T. Khorshed, A.B.M. S. Ali, S. A. Wasimi, A survey on gaps, threat remediation challenges and some thoughts for proactive attack detection in cloud computing, Future Generation Computer Systems 28 (2012) 833-851.
4. H-Y Chien, and J-k Jan, Robust and Simple Authentication Protocol, The Computer Journal 46(2) (2003) 193-201.
5. S. Shin, K. Kobara, H. Imai, A Secure Construction for Threshold Anonymous Password-Authenticated Key Exchange, IEICE Transactions on Fundamentals E91-A(11) (2008) 3312-3323.
6. A. A. Yassin, H. Jin., A. Ibrahim, W. Qiang, D. Zou, A Practical Privacy-preserving Password authentication Scheme for Cloud Computing, Paper presented at the Proceedings of IEEE IPDPSW, May 21-25, Shanghai, China,2012.
7. S. Goldwasser, S. Micali, C. Rackoff, The knowledge complexity of interactive proof-systems, Paper presented at the Proceedings of ACM STOC, May 6-8, New York, USA,1985.
8. L. Lu, J. Han, Y. Liu, L. Hu, J. Huai, L. M. Ni, J. Ma, Pseudo Trust: Zero-Knowledge Authentication in Anonymous P2Ps, IEEE Transactions on Parallel and Distributed System 19 (2008) 1325-1337.
9. Q. Jean-Jacques, M. Muril, M. G. Louis, M. Annick, G. Anna, G. Soazig, T. Berson, How to Explain Zero-Knowledge Protocols to Your Children, in: Advances in Cryptology, in: Lecture Notes in Computer Science, vol. 435, 1989, pp. 628-631.
10. D. Anshul, S. Roy, ZKP-based Identification Scheme for Base Nodes in Wireless Sensor Networks, Paper presented at the Proceedings of ACM SOAC, Mar 13-17 , Santa Fe, New Mexico, USA, 2005.
11. D. Q. Viet, A. Y., H. Tanaka, Anonymous Password-Based Authenticated Key Exchange, in: International Conference on Cryptology in India, in: Lecture Notes in Computer Science, vol. 3797, 2005, pp. 233-257.
12. S. Jeon, H-S Kim, M-S Kim, Enhanced Biometrics-based Remote User Authentication Scheme Using Smart Cards, Security Engineering 8(2) (2011) 237-254.
13. H-Y Chien, J-K Jan, Y-M Tseng, An Efficient and Practical Solution to Remote Authentication, Computers and Security 21(4) (2002) 372-375.
14. C-T Li, M-S Hwang, An efficient biometrics-based remote user authentication scheme using smart cards, Journal of Network and Computer Applications 33(1) (2010) 1-5.
15. C-T Chu, C-H Chen, The Application of Face Authentication System for Internet Security Using Object-Oriented Technology, Journal of Internet Technology 6(4) (2005) 419-425.
16. S. Mizuno, K. Yamada, K. Takahashi, Authentication Using Multiple Communication Channels, Paper presented at the Proceedings of ACM DIM, Nov. 11 , Fairfax, VA, USA, 2005.
17. O. Arasatnam, S. Boardman, 2010, Security for the cloud and SOA retrieved 8 May 2011, from http://www.opengroup.org/soa/projects/security.htm.
18. J. Yang, Z. Zhang, A New Anonymous Password-Based Authenticated Key Exchange Protocol, in: 9th International Conference on Cryptology in India, in: Lecture Notes in Computer Science, vol. 5365, 2008, pp. 200-212.
19. M. L. Das, A.Saxena, V. P. Gulati, A dynamic ID-based remote user authentication scheme, IEEE Transactions on Consumer Electronics 50(2) (2004) 629-631.
20. A-S K. Pathan, C-S Hong, T. Suda, A novel and efficient bilateral remote user authentication scheme using smart cards, Paper presented at the Proceedings of IEEE ICCE, Jan.10-14, Las Vegas, NV, USA, 2007.

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25.

Authors: **Ayad Ibrahim Abdulsada, Aqeel N. Mohammad Ali, Zaid Ameen Abduljabbar, Haider Sh.Hashim**

Paper Title: **Secure Image Retrieval over Untrusted Cloud Servers**

Abstract: Secure Image Retrieval over Untrusted Cloud Servers Ayad Ibrahim Abdulsada, Aqeel N. Mohammad Ali, Zaid Ameen Abduljabbar, Haider Sh.Hashim

Keywords: cloud computing, searchable encryption, LSH, image retrieval.

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References:

1. Reese, G. (2009) Cloud Application Architectures: Building Applications and Infrastructure in the Cloud. O'Reilly.
2. Song, D. X., Wagner, D., and Perrig, A. (2000) Practical techniques for searches on encrypted data. Proceedings of the 2000 IEEE Symposium on Security and Privacy, Berkeley, CA, 14-17 May, pp. 44-55. IEEE Computer Society, Washington, DC, USA.
3. Goh, E.-J. (2003). Secure indexes. Cryptology ePrint Archive, Report 2003/216.
4. Curtmola, R., Garay, J., Kamara, S., and Ostrovsky, R. (2006) Searchable symmetric encryption: improved definitions and efficient constructions. Proceedings of the 13th ACM conference on Computer and communications security (CCS '06), Alexandria, Virginia, USA, 30 October, pp. 79-88. ACM, New York, NY, USA.
5. Boneh, D., Crescenzo, G. D., Ostrovsky, R., and Persiano, G. (2004) Public key encryption with keyword search. Proceedings of the 24th international conference on cryptology (CRYPTO'04), Santa Barbara, California, pp. 506-522. LNCS 3027.
6. Abdalla, M., Bellare, M., Catalano, D., Kiltz, E., Kohno, T., Lange, T., Malone-Lee, J., Neven, G., Paillier, P., and Shi, H. (2008) Searchable encryption revisited: Consistency properties, relation to anonymous ibe, and extensions. Cryptology, 21, 350-391.
7. Li, J., Wang, Q., Wang, C., Cao, N., Ren, K., and Lou, W. (2010) Fuzzy keyword search over encrypted data in cloud computing. Proceedings of the 29th conference on Information communications (INFOCOM'10), San Diego, California, 15-19 March, pp. 441-445. IEEE Press, Piscataway, NJ, USA.
8. Manning, C. D., Raghavan, P., and Schutze, H.(2008), Introduction to Information Retrieval. Cambridge UP.
9. P. Indyk and R. Motwani, “Approximate nearest neighbors: towards removing the curse of dimensionality,” in 30th STOC, 1998, pp. 604–613.

26.

Authors: **Farzaneh Ostovar, Mahdi Mozaffari Legha**

Paper Title: **Quantify the Loss Reduction due Optimization of Capacitor Placement Using DPSO Algorithm Case Study on the Electrical Distribution Network of north Kerman Province**

Abstract: Increasing application of capacitor banks on distribution networks is the direct impact of development of technology and the energy disasters that the world is encountering. To obtain these goals the resources capacity and the installation place are of a crucial importance. Line loss reduction is one of the major benefits of capacitor, amongst many others, when incorporated in the power distribution system. The quantum of the line loss reduction should be exactly known to assess the effectiveness of the distributed generation. In this paper, a new method is proposed to find the optimal and simultaneous place and capacity of these resources to reduce losses, improve voltage profile too the total loss of a practical distribution system is calculated with and without capacitor placement and an index, quantifying the total line loss reduction is proposed. To demonstrate the validity of the proposed algorithm, computer simulations are carried out on actual power network of Kerman Province, Iran and the simulation results are presented and discussed.

Keywords: Distribution systems, Loss reduction index, Capacitor placement, Discrete Particle Swarm Optimization.

References:

1. C. Lyra, C. Pissara, C. Cavellucci, A. Mendes, P. M. Franca (2005), “Capacitor placement in large sized radial distribution networks, replacement and sizing of capacitor banks in distorted distribution networks by genetic algorithms”, IEE Proceedings Generation, Transmision & Distribution, pp. 498-516.
2. Ng H.N., Salama M.M.A. and Chikhani A.Y (2000), “Capacitor allocation by approximate reasoning: fuzzy capacitor placement”, IEEE Transactions on Power Delivery, vol. 15, No. 1, pp. 393-398.
3. Sundharajan and A. Pahwa (1994), “Optimal selection of capacitors for radial distribution systems using genetic algorithm”, IEEE Trans. Power Systems, vol. 9, No.3, pp.1499-1507.
4. Ji-Pyng Chiou et al(2006), “Capacitor placement in large scale distribution system using variable scaling hybrid differential evolution”, Electric Power and Energy Systems, vol. 28, pp.739-745.
5. M. Mozaffari Legha, (2011) Determination of exhaustion and junction of in distribution network and its loss maximum, due to geographical condition, MS.c Thesis. Islamic Azad University, Saveh Branch, Markazi Province, Iran.
6. J. L. Bala, P. A. Kuntz, M. Tayor (1995), “Sensitivity-based optimal capacitor placement on a radial distribution feeder”, Proc. Northcon 95, IEEE Technical Application Conf., pp. 225230.
7. D. Karaboga, B. Basturk (2007), “A powerful and efficient algorithm for numerical function optimization: artificial bee colony (ABC) algorithm”,Journal of Global Optimization, vol. 39, pp. 459-471.
8. D. Karaboga, B. Basturk(2008), “On the performance of artificial bee colony (ABC) algorithm”, Applied Soft Computing, vol. 8 pp. 687-697.
9. Prakash K. and Sydulu M (2007), “Particle swarm optimization based capacitor placement on radial distribution systems”, IEEE Power Engineering Society general meeting 2007, pp. 1-5.
10. D. Das (2002), “Reactive power compensation for radial distribution networks using genetic algorithms”, Electric Power and Energy Systems, vol. 24, pp.573-581.
11. K. S. Swarup (2005),”Genetic Algorithm for optimal capacitor allocation in radial distribution systems",Proceedings of the 6th WSEAS Int. Conf. on EVOLUTIONARY COMPUTING, Lisbon, Portugal, June 16-18, pp152-159.
12. P. Chiradeja, “Benefit of distributed generation: A line loss reduction analysis,” in Proc. IEEE-Power Eng. Soc. Transmission and Distribution Conf. Exhib.: Asia and Pacific, Dalian, China, Aug. 15–17, 2005.
13. Chiradeja, Ramkumar , “ An Approach to quantify the Benefits of Distrributed Generation Systems”, IEEE trans. On Energy Conversion, Vol. 19, Dec 2004, pp 764 – 773.
14. B. Basturk, D. Karaboga (2006), “An artificial bee colony (ABC) algorithm for numeric function optimization”, IEEE Swarm Intelligence Symposium 2006, May 12-14, Indianapolis, IN, USA.

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27.

Authors: **Adejumobi I.A., Adepoju G.A. Hamzat K. A.**

Paper Title: **Iterative Techniques for Load Flow Study: A Comparative Study for Nigerian 330kv Grid System as a Case Study**

Abstract: The purpose of any load flow analysis is to compute precise steady-state voltages magnitudes and angles of all buses in the network, the real and reactive power flows into every line and transformer, under the assumption of known generation and load. Model of power system generates non-linear algebraic equations and to solve these equations, three solution algorithms based on power equations of the methods were adopted. They were applied to two test power systems: IEEE 5-bus, IEEE 30-bus systems and a real power system, Nigerian 330kV 28-bus. The result of the application shows that number of iterations increases proportionally with the number of buses for Gauss-Seidel technique while that of Newton –Raphson method remained almost practically constant even with

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varying number of buses. The Fast Decoupled method presented a slight increase in number of iterations with increasing number of buses but with faster convergence, when compared with Newton –Raphson methods. The Newton-Raphson method provided the best characteristics of quadratic convergence in minimum number of iterations and this method is best suited for Nigerian system.

Keywords: Load Flow, Gauss-Seidel, Newton Raphson, Fast Decoupled, Power Flow, Iteration.

References:

1. Acha E., Claudio R., Hugo A., and Cesar A., (2004) "Facts Modelling and simulation in Power network" John Wiley & Sons Ltd. Southern Gate, Chichester, West Sussex, England
2. Adepoju, et al.,Power Flow Analysis of the Nigerian Transmission System Incorporating FACTS Controller"", International Journal of Applied Science and Technology, Vol. 1, No. 5, pp 186 – 200, 2011.
3. Federico Milano,(2009), "Continuous Newton's Method for Power Flow Analysis", IEEE Transaction on power system, vol. 24, No.1. Pp.450-451.
4. Grupta, B.R. (2006), "Power System Analysis and Design", Wheeler Publishing, Allahabad,
5. Grainger, J. J., and W. D. Stevenson. 1994. Power System Analysis. New York: McGraw-Hill.
6. Hadi Saadat, (2006), "Power System Analysis", Mc Grae-Hill
7. Nagrath, I.J and Kothari, D.P, (2006), Power System Engineering", Tata McGraw-Hill Publishing Company Limited,
8. Ravi Kumar S.V. and Siva Nagaraju S.(2007),"Loss Minimization by Incorporation of UPFC in Load Flow Analysis", International Journal of Electrical and Power Engineering 1(3) page 321-327. Stagg, G.W. and EL- Abiad, A. H.,(1968); "Computer Method in Power System Analysis", McGraw- Hill, New York.
9. Stagg, G.W. and EL- Abiad, A. H.,(1968); "Computer Method in Power System Analysis", McGraw- Hill, New York.
10. Stevenson W.D. Jr and Granger J.J, (1994), "Power System Analysis", McGraw-Hill, New York. 4th Edition.
11. Vander M. Da Costa, Nelson M.,and Jose Luiz R. P,(1999), `Developments in Newton Raphson Power Flow Formulation Based on Current Injectios',IEEE Transaction on Power System,vol.14, No 4.pp1320-1321.
12. Wadhwa C.L. (1991), Electrical Power Systems, John Wiley Sons, New Delhi, Indian.

28.

Authors: **Bharatwaj G. S, Prasanna. S, Ramakrishnan. R, Sanjay Raam. M, Vignesh. S**

Paper Title: **Fuzzy Logic Based Farm Automation Using Arduino and LabVIEW with X-Bee Based Control System**

Abstract: In spite of the vast advancement in technology, the exposure of a primary sector like agriculture to technology is quite limited in India. With an exponential decrease in the labor availability for agriculture, a second green revolution is the order of the day. The objective of this paper is to reduce the pressure on manual labor. The system has been tested and the results have been obtained. This is done with the help of Arduino, LabVIEW and Zigbee Technology. Essential parameters of the field are sensed to have a continuous unmanned supervision.

Keywords: Arduino, RST-03, Fuzzy Logic, LabVIEW, ATMEGA 328, Zigbee technology, Farm automation.

References:

1. N.Sigrimis, P.Antsaklis, P.P.Groumpos, "Advance in control of agriculture and the environment," Control systems, IEEE, vol. 21, pp. 8-12, Oct, 2001.
2. Webpage on factor on plants and light importance [Online]. Available:http://www.tomatosphere.org/teacher-resources/teachers-guide/grades-8-10/plants-and-lights.cfm
3. Sistler, F, "Robotics and intelligent machines in agriculture," Robotics and Automation, IEEE Journal, vol. 3, pp. 3-6, Feb, 1987.
4. F.R. Miranda, R. Yoder, and J.B. Wilkerson," A site-specific irrigation control system" presented at the ASAE Annual International meeting, Las Vegas, NV, Jul. 27-30,2003,Paper No.031129.
5. Zhou Yiming, Yang Xianglong, Guo Xishan, Zhou Mingang, Wang Liren " A Design of Greenhouse Monitoring and Control System based on Zigbee Wireless Sensor Network," in Wireless communications, Networking and Mobile Computing, 2007, WiCom 2007. International Conference on p.2563-2567, Feb, 1987.
6. Wall R.W, "Sprinklers and power lines" Computer applications in IEEE, vol. 14, pp. 25-29, Apr, 2001.
7. Al-Kuwari A.M.A.H, Ortega-Sanchez, Sharif.A, and Potdar.V, "User friendly smart home infrastructure: Bee House," in Digital Ecosystems and Technological Conference (DEST), 2011, p. 257-262.
8. Zigbee Alliance, Zigbee technical documents, Technical Report, Zigbee Alliance, 2005
9. Webpage on Grove-Moisture sensor. [Online]. Available: http://www.seeedstudio.com/wiki/Grove_-_Moisture_Sensor
10. Digital relative humidity & temperature sensor (RHT03), Maxdetect technology ltd.
11. AVR Microcontroller (ATmega328P), ATMEL, 2010.
12. Physical layer (PHY) and Wireless Medium Access Control (MAC) specification IEEE std. 802.15.4, 1997
13. Webpage on X-bee shield interface with Arduino. [Online]. Available: http://arduino.cc/en/Main/ArduinoXbeeShield
14. Timothy J. Ross, Fuzzy logic with engineering applications, Wiley Publications, 2nd Edition Reprint. 2010

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29.

Authors: **Masum Billah, M L Palash, Husain Mohammad Mahbub Alam**

Paper Title: **Load Balanced Routing Protocols for Ad Hoc Mobile Wireless Networks**

Abstract: the collections of mobile nodes which can form randomly and dynamically for temporary basis network without need preexisting network infrastructure or any centralized controlled administration that nodes can be arbitrarily located and can move freely called Mobile ad hoc network. Because of some limitation at wireless link capacities can be excessive loads on the nodes. There are two major aspects for this –traffic and power consumption. So, unbalanced traffic may cause of more delay, packet dropping, and reducing packet delivery ratio. The work is the idea on view of balancing nodes on traffic in different routing protocol DSR, DSDV and AODV in a mobile ad hoc network. This analysis of this result obtained from a NS2 particular scenario.

Keywords: Ad hoc Networks, AODV, DSR, DSDV, load balancing, NS2, Routing Protocols.

References:

1. Chai Keong Toh, University of Hong Kong Anh-Ngoc Le and You-Ze Cho, KyungPook National University "Load Balanced Routing Protocols for Ad Hoc Mobile Wireless Networks' Communications Magazine, IEEE Publication Year: 2009, Page(s): 78 - 84
2. H. Hassanein and A. Zhou, " Routing with Load Balancing in Wireless Ad hoc Networks," Proc. 4th ACM MSWiM '01, Rome, Italy, 2001, pp. 89–96.

164-167

3. Arun Kumar B. R. Lokanatha C. Reddy, Prakash S. Hiremath 'Performance Comparison of Wireless Mobile Ad-Hoc Network Routing Protocols ",IJCSNS International Journal of Computer Science and Network Security, VOL.8 No.6, June 2008, page number 337
4. Rajeshwar Singh, Dharmendra K Singh, Lalan Kumar "Performance Evaluation of DSR and DSDV Routing Protocols for Wireless Ad Hoc Networks" Int. J. Advanced Networking and Applications 732 Volume: 02, Issue: 04, Pages: 732-737 (2011)
5. The CMU Monarch Project's Wireless and MobilityExtensions to ns, http://www.monarch.cs.cmu.edu/
6. Charles E. Perkins, Pravin Bhagwat. Highly dynamic Destination-Sequenced Distance-Vector routing (DSDV) for mobile computers. In Proceedings of the Charles E. Perkins, Pravin Bhagwat. Highly dynamic Destination-Sequenced Distance-Vector routing (DSDV) for mobile computers. In Proceedings of the
7. Ioannis Broustis, Gentian Jakllari, Thomas Repantis, and Mart Molle, "A Comprehensive Comparison of Routing Protocols for Large-Scale Wireless MANETs",
8. C. E. Perkins, E. M. Royer. "Ad-hoc On-Demand Distance Vector Routing." Proceedings of the 2nd IEEE
9. S. R. Biradar1, Hiren H D Sarma2, Kalpana Sharma3, Subir Kumar Sarkar4 , Puttamadappa C5 1 ,2, 3 Sikkim Manipal Institute of Technology, Majitar -737 132, INDIA "Performance Comparison of Reactive Routing Protocols of MANETs using Group Mobility Model" , 2009 International Conference on Signal Processing Systems
10. "The network simulator - ns-2," in, http://www.isi.edu/nsnam/ns.
11. Suresh Kumar, R K Rathy, Diwakar Pandey "Traffic Pattern Based Performance Comparison of Two Reactive Routing Protocols for Ad Hoc Networks Using NS2",
12. Vahid Nazari Talooki, Jonathan Rodriguez, Rasool Sadeghi "A Load Balanced Aware Routing Protocol ForWireless Ad Hoc Networks"
13. Meenakshi Bansal, Rachna Rajput , Gaurav Gupta "Mobile Ad hoc Networking (MANET): Routing Protocol Performance Issues and Evaluation Considerations"

30.

Authors: **P.Sreenath, Myaka.Narendhar, Tadikamalla.Sanjeev Rao**

Paper Title: **Mitigation of Total Harmonics Distortion by Using 84 Pulse VSC Configurations**

Abstract: This paper analyzes the 84 pulse VSC (Voltage source converter) and static synchronous compensators (STATCOMs) utilize multipulse converters due to the following: 1) lower harmonic injection into the power system and FACTAS; 2) decreased stress on the electronic components due to decreased voltages; and 3) lower switching losses. This paper approach is illustrated on an 84 pulse VSC and the effect on the dynamic performance and the total harmonic distortion (THD) is analyzed.84 pulse VSC assembled by combining one twelve-pulse VSC, in conjunction with an asymmetric single phase seven level converter plus an injection transformer. With this arrangement, The VSC output's THD in voltage is reduced. The proposed strategy allows savings in the number of employed switches. Simulation and experimental results are provided to show the proposal appropriateness.

Keywords: FACT Devices, Multipulse converters, Voltage source converters, STATCOM, IGBT Switches and custom power.

References:

1. Hingorani,N.G."FACT Technolog State of the Art, Current Challenges and the Future Prospects," IEEE Power Engineering Society General Meeting, 24-28 June 2007, Tampa, Florida USA
2. Song, Y. H., and Johns, A. T.: 'Flexible AC transmission systemsFACTS,' (IEE Power and Energy Series 30, 1999)
3. Acha, E., Fuerte-Esquivel, C. R.,Ambriz, H., Angeles, C.: 'FACTS.Modelling and Simulation in PowerNetworks.' (John Wiley and Sons,LTD, 2004.)
4. Wang, H. F.: "Applications of damping torque analysis to StatCom control", Electrical Power and EnergySystems, Vol. 22, 2000, pp. 197- 204.
5. CIGRE, "Static SynchronousCompensator", CIGRE working group 14.19, September 1998.
6. Hingorani, N. G., and Gyugyi, L.:'Understanding FACTS,' (IEEE Press 2000).
7. El-Moursi, M. S., and Sharaf, A. M.:"Novel Controllers for the 48-Pulse VSC StatCom and SSSC for Voltage Regulation and Reactive Power Compensation", IEEE Transactions on Power Systems, Vol. 20, No. 4, November 2005, pp. 1985-1997
8. Davalos-Marin, R.: 'Detailed Analysisof a multi-pulse Stat Com',Cinvestav– Internal Report. May 2003,available at http://www.dispositivosfacts.com.mx/di_tesis_doc.html,
9. Pan, W., Xu, Z., Zhang, J.: "Novel Configuration of 60-pulse voltage source converter for StatCom application," International Journal of Emerging Electric Power Systems, Vol 8, Issue 5, 2007, Article 7.

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31.

Authors: **M.L.Dongare**

Paper Title: **Development of Fiber Optic Differential Pressure Sensor Used for BOD Measurement in Sugar and Allied Industry**

Abstract: An attempt has been made to develop prototype instruments with Fiber optic differential pressure sensor (FODPS) and its use for measuring Biological Oxygen Demand (BOD) in the effluent from sugar factories and distilleries. Design of fiber optic based differential pressure sensor (FODPS) using intensity modulation technique is reported in this paper. A corrugated diaphragm based differential pressure sensor with a fiber optic probe to record this deformation/displacement of the diaphragm is designed, optimized and fabricated. In FODPS, diaphragm act as a reflector. A flexible disc of plastic is used as a diaphragm to convert the measuring pressure to the deflection of diaphragm. Concentric corrugations are designed to linearise the deflections according to pressure. Reference and measuring pressures are applied to control and experimental headspaces respectively. As the pressure changes in the experimental head space, the diaphragm is deform and displaces, and distance between fiber tip and plane of diaphragm changes and thus resultant reading is proportional to the differential pressure.

An attempt has been made to develop prototype instruments with Fiber optic differential pressure sensor (FODPS) and its use for measuring Biological Oxygen Demand (BOD) in the effluent from sugar factories and distilleries.

Keywords: BOD, FODPS, Fiber, Distillery, Sensor

References:

1. Achilies Tzoris,Virginia Fernandez-Perez,Elizabeth A.H.Hall ,Direct toxicity assessment with a mini portable respirometer, Sensors and actuator,(2005 B,105,39-49.
2. E. Udd ,(edited) Fiber optic sensors: An introduction for Engineers and Scientist,(Wiely, New York,(1991).
3. B Culsaw and J Dakin, Eds, Optical fiber sensors: Systems and applications Vol.2 (Artech, Boston,(1989).

171-173

4. G.L.Mitchell, In Fiber optic sensors: An introduction for Engineers and Scientist, (Wiely, New York,(1991).
5. R.P. Khare, Fiber optics and optoelectronic, Oxford university press, New Delhi (2004).
6. Yuan Libo, Ruan Shunling and Pan Jian ‘Automatic compensation fiber optic differential pressure sensor’, Sensors and Actuators: A, 36 (1993) pp. 183-185.
7. O B Wright, D Largeau, “Fibre-optic differential pressure sensor”, J. Phys. E: Sci. Instrum. 20 (1987) pp. 46-51.
8. Berthold J.W. Ghering W.L. and Varshneya, “Design and characterization of a high temperature fiber optic pressure transducer”, J. light wave technology, 5 (1987) pp. 870-876.
9. Taso Shyh-Lin, Cheng Wen-Ming, “Simplified formula of bending loss for optical fiber sensors”, Fiber and integrated optics, 21 (2002) pp.333-344.
10. W. J. Bock, M. S. Nawrocka and W. Urbanczyk, “Coherence multiplexed fiber optic sensor systems for measurement of pressure and temperature changes”, IEEE Transactions on Instrumentation and measurement, 51 (5) (2002) pp.980-984.
11. Iwamoto K. and Kamata I. “Pressure sensors using optical fibers”, Appl. Opt., vol 29 no.3 (1990) pp. 375-378.
12. C. M. Lawson, V. J. Tokippe, “Fiber optic diaphragm curvature pressure transducer”, Opt. Lett. 8 (1983) pp.286-88.
13. Buchade P.B., Shaligram A. D. “Experimental and simulation studies of inclined two fiber displacement sensors”. Sensors and Actuators:. 312-316(2006) A 128pp.
14. Jose Brando Faria, IEEE Transactions on Instrumentation and measurement. 47(1998)
15. Jianli Zheng. Optical Engineering 38(1999) 227.
16. A.L Chaudhari. Ph.D. Thesis. University of Pune, Pune, India, 2003.
17. P.B Buchade and A.D. Shaligram, Sensors and Actuators A: 128(2006) 312.

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Authors: **K.Saranya Reddy, A.Bhaktavastala, V.Raveendra Reddy**

Paper Title: **UPQC-S: A Novel Concept of Simultaneous Voltage Sag/Swell and Load Reactive Power Compensations Utilizing Series Inverter of UPQC**

Abstract: This paper introduces a new concept of optimal utilization of a unified power quality conditioner (UPQC). The series inverter of UPQC is controlled to perform simultaneous 1) voltage sag/swell compensation and 2) load reactive power sharing with the shunt inverter. The active power control approach is used to compensate voltage sag/swell and is integrated with theory of power angle control (PAC) of UPQC to coordinate the load reactive power between the two inverters. Since the series inverter simultaneously delivers active and reactive powers, this concept is named as UPQC-S (S for complex power). A detailed mathematical analysis, to extend the PAC approach for UPQC-S, is presented in this paper. MATLAB/SIMULINK-based simulation results are discussed to support the developed concept. Finally, the proposed concept is validated with a digital signal processor-based experimental study.

Keywords: UPQC,UPQC-S,UPFC,PAC

References:

1. R. C. Dugan, M. F. McGranaghan, and H. W. Beaty, Electrical Power Systems Quality.. New York: McGraw-Hill, 1996, p. 265.
2. C. Sankaran, Power Quality. Boca Raton, FL: CRC Press, 2002, p. 202.
3. R. A. Walling, R. Saint, R. C. Dugan, J. Burke, and L. A. Kojovic, "Summary of distributed resources impact on power delivery systems," IEEETrans. Power Del., vol. 23, no. 3, pp. 1636-1644, Jul. 2008.
4. L. Gyugyi, "Unified power-flow control concept for flexible AC transmission systems," IEE - C Gene. Trans. Distr., vol. 139, no. 4, pp. 323-331, Jul. 1992.
5. N. G. Hingorani and L. Gyugyi, Understanding FACTS: Concepts and Technology of Flexible AC Transmission Systems. New York: IEEE Press, 2000, p. 432.
6. V. K. Sood, HVDC and FACTS Controllers - Applications of Static Convertersin Power Systems. Boston, MA: Kluwer, 2004, p. 295.
7. A. Ghosh and G. Ledwich, Power Quality Enhancement Using Custom Power Devices. Boston, MA: Kluwer, 2002, p. 460.
8. B. Singh, K. Al-Haddad, and A. Chandra, "A review of active power filters for power quality improvement," IEEE Trans. Ind. Electron., vol. 45, no. 5, pp. 960-971, Oct. 1999.
9. M. El-Habrouk, M. K. Darwish, and P. Mehta, "Active power filters: A review," IEE Electr. Power Appl., vol. 147, no. 5, pp. 403-413, Sep. 2000.
10. Doncker, C. Meyer, R. W. De, W. L. Yun, and F. Blaabjerg, "Optimized control strategy for a medium-voltage DVR-Theoretical investigations and experimental results," IEEE Trans. Power Electron., vol. 23, no. 6, pp. 2746-2754, Nov. 2008.
11. C. N. Ho and H. S. Chung, "Implementation and performance evaluation of a fast dynamic control scheme for capacitor-supported interline DVR," IEEE Trans. Power Electron., vol. 25, no. 8, pp. 1975-1988, Aug. 2010.
12. Y. Chen, C. Lin, J. Chen, and P. Cheng, "An inrush mitigation technique of load transformers for the series voltage sag compensator," IEEE Trans. Power Electron., vol. 25, no. 8, pp. 2211-2221, Aug. 2010.
13. S. Subramanian and M. K. Mishra, "Interphase AC-AC topology for voltage sag supporter," IEEE Trans. Power Electron., vol. 25, no. 2, pp. 514-518, Feb. 2010.
14. H. Fujita and H. AkagiIEEE Trans. Power Electron., vol. 13, no. 2, pp. 315-322, Mar. 1998.
15. V. Khadkikar and A. Chandra, "A new control philosophy for a unified power quality conditioner (UPQC) to coordinate load-reactive power demand between shunt and series inverters," IEEE Trans. Power Del., vol. 23, no. 4, pp. 2522-2534, Oct. 2008.
16. M. Vilathgamuwa, Z. H. Zhang, and S. S. Choi, "Modeling, analysis and control of unified power quality conditioner," in Proc. IEEE Harmon. Quality Power, Oct. 14-18, 1998, pp. 1035-1040.
17. M. Gon, H. Liu, H. Gu, and D. Xu, "Active voltage regulator based on novel synchronization method for unbalance and fluctuation compensation," in Proc. IEEE Ind. Electron. Soc (IECON), Nov. 5-8,, 2002, pp. 1374-1379.
18. M. S. Khoor and M. Machmoum, "Simplified analogical control of a unified power quality conditioner," in Proc. IEEE Power Electron. Spec. Conf. (PESC), Jun., 2005, pp. 2565-2570.
19. V. Khadkikar, A. Chandra, A. O. Barry, and T. D. Nguyen, "Analysis of power flow in UPQC during voltage sag and swell conditions for selection of device ratings," in Proc. IEEE Electr. Computer Eng. (CCECE), May 2006, pp. 867-872.
20. B. Han, B. Bae, H. Kim, and S. Baek, "Combined operation of unified power-quality conditioner with distributed generation," IEEE Trans. Power Del., vol. 21, no. 1, pp. 330-338, Jan. 2006.
21. H. R. Mohammadi, A. Y. Varjani, and H. Mokhtari, "Multiconverter unified power-quality conditioning system:MC-UPQC," IEEE Trans. Power Del., vol. 24, no. 3, pp. 1679-1686, Jul. 2009.
22. A. Axente, J. N. Ganesh, M. Basu, M. F. Conlon, and K. Gaughan, "A 12-kVA DSP-controlled laboratory prototype UPQC capable of mitigating unbalance in source voltage and load current," IEEE Trans. Power Electron., vol. 25, no. 6, pp. 1471-1479, Jun. 2010.
23. M. Basu, S. P. Das, and G. K. Dubey, "Investigation on the performance of UPQC-Q for voltage sag mitigation and power quality improvement at a critical load point," IET Generat., Transmiss.Distrib., vol. 2, no. 3, pp. 414-423, May 2008.
24. V. Khadkikar and A. Chandra, "A novel control approach for unified power quality conditioner Q without active power injection for voltage sag compensation," in Proc. IEEE Int. Conf. Ind. Technol. (ICIT), Dec. 15-17, 2006, pp. 779-784.
25. M. Yun, W. Lee, I. Suh, and D. Hyun, "A new control scheme of unified power quality compensator-Q with minimum power injection," in Proc. IEEE Ind. Electron. Soc. (IECON), Nov. 2-6,, 2004, pp. 51-56.

174-180

26. Y. Y. Kolhatkar and S. P. Das, "Experimental investigation of a singlephase UPQC with minimum VA loading," IEEE Trans. Power Del., vol. 22, no. 1, pp. 373-380, Jan. 2007.
27. D. O. Kisck, V. Navrapescu, and M. Kisck, "Single-phase unified power quality conditioner with optimum voltage angle injection for minimum VA requirement," in Proc. IEEE Power Electron. Spec. Conf. (PESC), Jun. 17-21, 2007, pp. 574-579.
28. G. S. Kumar, P. H. Vardhana, B. K. Kumar, and M. K. Mishra, "Minimization of VA loading of unified power quality conditioner (UPQC)," in Proc. IEEE Powereng, Mar. 18-20, 2009, pp. 552-557.

33.

Authors: **D. Gherdaoui, H. Bekdouche, R. Fegas, A. Zeghdaoui, F. Bouazza, S. Zerkout**

Paper Title: **Separation of Ketoprofen Racemate by TLC Plate with Different Chiral Selectors**

Abstract: Separation of enantiomers has become a well-established technique in many fields of science; it is a matter of great importance in pharmaceutical, chemical and biotechnology. In fact, the biological and pharmacological activity of chiral compounds depend on their configuration; one of the enantiomers is pharmacologically active and even can be toxic. It is thus desirable to have reagents and separation techniques to separate the enantiomers and analyze the enantiomeric purity. A variety of chromatographic methods have been developed for optical resolution recently. Direct and simple separation of the enantiomers of ketoprofen is carried out on TLC plate used different chiral selectors in the mobile phase such as: quinidine, quinine carbamate, vancomycin and cyclodixtrin. The success of enantioseparation of racemic ketoprofen is due to the difference in characteristics and selectivity of each selector

Keywords: Chiral Selector, Enantioseparation, ketoprofen, TLC.

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References:

1. L. Igarza, A. Soraci, N. Auza and H. Zeballos. “Chiral Inversion of (R)-Ketoprofen: Influence of Age and Differing Physiological Status in Dairy Cattle”. Veterinary Research Communications, 2002, p 29-37.
2. J. Khan, K. H. Yuen1, N. B. Hong and al. “Development and Validation of a Simple High Performance Liquid Chromatographic Method for Determination of Ketoprofen in Human Plasma”. IJPSR, 2011, p 1-5.
3. G. Gubitz, M. G. Schmid. “Chiral Separation by Chromatographic and Electromigration Techniques. A Review”. Biopharm. Drug Dispos, 2001, p 291–336.
4. Y. Bereznitski, R. thompson, E. O’neill, and N. Grinberg. “Thin-Layer Chromatography—A Useful Technique for the Separation of Enantiomers”. Journal of AOAC International, Vol. 84, No. 4, 2001.
5. M. Zaher. “Nouveaux sélecteurs chiraux à base d'aminoglycosides pour la séparation chorale par échange de ligands”. Thèse doctorat en chimie analytique. Université de GRENOBLE. (Version 1 - 4 Jan 2011).
6. J Tae Ho Yoon, In Ho Kim. “Chiral Separation of Ketoprofen Racemate by using Chirex® 3005 and Kromasil® CHI-II Chiral Column”. Korean J. Chem. Eng., 21(2), 2004, p 521-526.

34.

Authors: **A. Ayyasamy, K. Venkatachalapathy**

Paper Title: **Performance Evaluation of Load Based Channel Aware Routing in MANETs with Reusable Path**

Abstract: Mobile Ad Hoc Networks (MANETs) are wireless networks which don’t require any infrastructure support for transferring the data packet between two nodes. Routing protocols for ad hoc networks has generally ignored channel fading. The existing protocol Channel Aware - Ad hoc On-demand Multipath Distance Vector (CA-AOMDV) uses one of the routing metrics as channel Average Non-Fading Duration (ANFD). This metric is useful for informing the fading detail into neighbour node. We proposed a new Load Based Channel Aware - Ad hoc On-demand Multipath Distance Vector (LBCA-AOMDV) protocol which is applied for load balancing to improve the network performances. In our routing protocol calculates the channel’s non-fading duration for routing with minimum packet loss. Specifically, the faded paths can be reused rather than being discarded and also the loads are balanced on the link. The NS-2 was used to perform both simulation and performance evaluation of the proposed protocol and to compare it with the existing protocols. The simulation result demonstrates the greatly improved network performance and reduction of packet loss on routing over CA-AOMDV.

Keywords: Mobile ad hoc networks, routing protocols, channel average non-fading duration, channel average fading duration.

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References:

1. Xiaoqin Chen, Haley M. Jones, and DhammikaJayalath, “Channel-Aware Routing in MANETs with Route Handoff,” IEEE Transactions on Mobile Computing. Vol 10, pp. 108 – 121, 2011.
2. MehranAbolhasan, TadeuszWysocki, ErykDutkiewicz, “A review of routing protocols for mobile ad hoc networks,” Telecommunication and Information Research Institute, University of Wollongong, Australia, Ad Hoc Networks. Vol 2, 2004, pp. 1–22.
3. Kemal Akkaya, Mohamed Younis, “A survey on routing protocols for wireless sensor networks,”Ad Hoc Networks. Vol. 26, pp. 325–349, 2003.
4. Jun Zheng, David Simplot-Ryl, Shiwen Mao, Baoxian Zhang, “Advances in Ad Hoc Networks,” Ad Hoc Networks, vol. 10, pp 61-66, 2012.
5. Rajashekhar C. Biradar, Sunilkumar S. Manvi, “Neighbor supported reliable multipath multicast routing in MANETs,” vol. 35,2012, pp. 1074–1085.
6. Gil Zussman, Adrian Segall, “Energy efficient routing in ad hoc disaster recovery networks,”Ad Hoc Networks. Vol. 1, pp. 405–421, 2003.
7. ImrichChlamtac, Marco Conti, Jennifer J.-N. Liu, “Mobile ad hoc networking: Imperatives and challenges,”Ad Hoc Networks. Vol. 1, pp. 13–64, 2003.
8. E.M. Royer and C.-K. Toh, “A Review of Current Routing Protocols for Ad Hoc Mobile Wireless Networks,” IEEE Personal Communications, pp. 46-55, 1999.
9. S. Jain and S. R. Das, “Exploiting Path Diversity in the Link Layer in Wireless Ad Hoc Networks,” Proc. Sixth IEEE Int’l Symp. World of Wireless Mobile and Multimedia Networks, 2005, pp. 22-30.
10. Mahesh K. Marina and Samir R.Das, “On-Demand Multipath Distance Vector Routing in Ad-hoc Networks,” in proceedings of the IEEE International Conference on Network Protocols, 2001, pp. 14-23.
11. M. Park, J. G. Andrews, and S. M. Nettles, “Wireless Channel-Aware Ad Hoc Cross-Layer Protocol with Multi-Route Path Selection Diversity,” in Proc. IEEE Vehicular Technology Conf, Vol 4, 2003, pp. 2197-2201.
12. J. Liu, and A. Annamalai, “Efficacy of Channel-and-Node Aware Routing Strategies in Wireless Ad Hoc Networks,” Proc. IEEE VTC, 2005, pp. 2658 - 2662.

13. M. Souryal, B. Vojcic, R. Pickholtz, “Ad hoc multi hop CDMA networks with route diversity in a Rayleigh fading channel,” Communications for network-centric operations: Creating the information force. IEEE. Vol. 2, 2001, pp. 1507 - 1511.
14. M. Zorzi and R.R. Rao, “Geographic random forwarding (GeRaF) for ad hoc and sensor networks: multihop performance,” IEEE Trans. on Mobile Computing. 2003, pp. 349–364.
15. P. Pham, S. Perreau, and A. Jayasuriya, “New Cross-Layer Design Approach to Ad Hoc Networks under Rayleigh Fading,” IEEE J. Selected Areas in Comm. Vol. 23, 2003, pp. 28-39.
16. R. Dube, C. Rais, K.Y. Wang, and S.K. Tripathi, “Signal Stability- Based Adaptive Routing (SSA) for Ad Hoc Networks,” IEEE Personal Comm. Vol. 4, pp. 36-45, 1997.
17. S. Zhao, Z. Wu, A. Acharya, and D. Raychaudhuri, “PARMA: A PHY/MAC Aware Routing Metric for Ad-Hoc Wireless Networks with Multi-Rate Radios,” Proc. Sixth IEEE Int’l Symp. World of Wireless Mobile and Multimedia Networks. 2005, pp. 286-292.
18. M.R. Souryal, B.R. Vojcic, and R.L. Pickholtz, “Information Efficiency of Multihop Packet Radio Networks with Channel- Adaptive Routing,” IEEE J. Selected Areas in Comm. Vol. 23, 2005, pp. 40-50.
19. C.E. Perkins and E.M. Royer, “Ad-Hoc On -Demand Distance Vector Routing,” Proc. IEEE Workshop Mobile Computing Systems and Applications.1999, pp. 90-100.
20. A.S. Akki, “Statistical Properties of Mobile-to-Mobile Land Communication Channel,” IEEE Trans. Vehicular Technology. Vol. 43, pp. 826-831, 1994.
21. D. Niculescu and B. Nath, “Ad Hoc Positioning System (APS),” Proc. IEEE Global Telecomm. Conf. 2001, pp. 2926-2931.
22. C. Savarese, J.M.Rabaey, and J. Beutel, “Locationing in Distributed Ad-Hoc Wireless Sensor Networks,” Proc. IEEE Int’l Conf. Acoustics, Speech and Signal Processing (ICASSP). Vol. 4, 2001, pp. 2037-2040.
23. D. Niculescu and B. Nath, “Ad Hoc Positioning System (APS) Using AoA,” Proc. IEEE INFOCOM. 2003, pp. 1734-1743.
24. A.B. Mnaouer, L. Chen, C.H. Foh, and J.W. Tantra, “an Optimized Polymorphic Hybrid Multicast Routing Protocol (OPHMR) for Ad Hoc Networks,” IEEE. Trans. Mobile Computing. Vol. 5, pp. 503-514, 2006.
25. W. Su and M. Gerla, “IPv6 Flow Handoff in Ad Hoc Wireless Networks Using Mobility Prediction,” Proc. IEEE Global Telecomm. Conf. (GLOBECOM). Vol. 1, 1999, pp. 271-275.
26. S. Panichpapiboon, G. Ferrari, and O.K. Tonguz, “Optimal Transmit Power in Wireless Sensor Networks,” IEEE Trans. Mobile Computing. Vol. 5, pp. 1432-1447, 2006.
27. A.S. Akki and F. Haber, “A Statistical Model of Mobile-to-Mobile Land Communication Channel,” IEEE Trans. Vehicular Technology. Vol. 35, no. 2, pp 2-10, 1986.
28. C.S. Patel, G.L. Stuber, and T.G. Pratt, “Simulation of Rayleigh- Faded Mobile-to-Mobile Communication Channels,” IEEE Trans. Comm. Vol. 53, no. 11, pp. 1876-1884, 2005.
29. R.J. Punnoose, P.V. Nikitin, and D.D. Stancil, “Efficient Simulation of Ricean Fading within a Packet Simulator,” Proc. IEEE Vehicular Technology Conf. (VTC), Vol. 2, 2000, pp. 764-767.
30. X. Lin, Y.K. Kwok, and V.K.N. Lau, “RICA: A Receiver-Initiated Approach for Channel-Adaptive On-demand Routing in Ad Hoc Mobile Computing Networks,” Proc. Int’l Conf. Distributed Computing Systems (ICDCS). 2002, pp. 84-91.

35.

Authors: **R.Sathiya, N.Prathipa, K.Gomathi**

Paper Title: **A Comprehensive Overview on Different Cloud Storage Techniques and Security Mechanism**

Abstract: With the development of cloud computing, Data security becomes more and more important in cloud computing. This paper analyses the basic information about cloud computing and cloud computing data security issues , with the analysis of Hadoop map reduce and Merkel hash tree authentication of data elements. Finally we build a data security in real world for cloud computing Keyword-Keyword1.

Keywords: Characteristics of Cloud storage, Security issues, Data security, Map reducing Programming Model, Avoiding Bad Hadoop and Cloud Analytics Decisions.

References:

1. Cloud Computing:http://simple.wikipedia.org/wiki/Cloud_computing
2. Characteristics of cloud computing : http://cloudglossary.com/home/id.On-demand-self-service/i.html
3. Characteristics of cloud computing : http://www.techopedia.com/definition/28785/broad-network-access
4. Characteristics of cloud computing : http://www.cloudcommons.com/about-smi
5. Characteristics of cloud computing : http://cloudglossary.com/home/id.Rapid-Elasticity/i.html
6. Cloudclassificationsandbenefits:http://en.wikipedia.org/wiki/Cloud_computing, http://searchcloudcomputing.techtarget.com
7. Cloud computing security issues :http://www.csoonline.com/article/507974/the-cloud-security-survival-guide, ttp://www.csoonline.com/article/596819/cloud-security-the-basics-----cloud
8. Cloud Computing Security: making Virtual Machines Cloud-Ready www.cloudreadysecurity.com 2008
9. Greg Boss, Cloud Computing□IBM 2007.10
10. Ensure Data Security in Cloud Storage Xiao Zhang, Hong-tao Du, Jian-quan Chen, Yi Lin, Lei-jie Zeng
11. H. Shacham and B. Waters, “Compact proofs of retrievability,” in Proc. of ASIACRYPT’ 08. Springer-Verlag, 2008, pp. 90–107.
12. G. Ateniese, R. Burns, R. Curtmola, J. Herring, L. Kissner, Z. Peterson, and D. Song, “Provable data possession at untrusted stores,” in Proc. of CCS’07. New York, NY, USA: ACM, 2007, pp. 598–609.
13. K. D. Bowers, A. Juels, and A. Oprea, “Proofs of retrievability: Theory and implementation,” Cryptology ePrint Archive, Report 2008/175, 2008.
14. A. Juels and B. S. Kaliski, Jr., “Pors: proofs of retrievability for large files,” in Proc. of CCS’07. New York, NY, USA: ACM, 2007, pp. 584–597.
15. D. Boneh, B. Lynn, and H. Shacham, “Short signatures from the weil pairing,” in Proc. of ASIACRYPT’01. London, UK: Springer-Verlag, 2001, pp. 514–532.
16. R. C. Merkle, “Protocols for public key cryptosystems,” Proc. of IEEE Symposium on Security and Privacy’80, pp. 122–133, 1980.
17. Hadoop definition: http://hadoop.apache.org/
18. Hadoop map reduce: http://www.linuxjournal.com/content/open-source-cloud-computing-hadoop
19. Hadoop map reduce programming model: http://ebiquity.umbc.edu/blogger/2007/12/26/cloud-computing-with-hadoop/
20. Avoiding of badhadoop and cloud analytics: http://blogs.vmware.com/vfabric/2013/04/myths-about-running-hadoop-in-a-virtualized-environment.html

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36.

Authors: **Ukkeshwar.V.S, Umesh Kumar Krishnan, Sibi.S, Waldar Richard Rajaiah.X, S.Sujindar**

Paper Title: **A Comprehensive Overview of different Wireless Networks**

Abstract: The bond between us, was and is laid by various networks .For these things called networks they did not appear all of a sudden, they were found by humans and evolved with the help of humans.

As like the evolution of nomads to civilized, the networks evolved to wireless networks. Development of networks is a never-ending demand. More and more gadgets are finding their way into this world each day. This paper presents the foundations and necessity of networks and their development to the upcoming network systems.

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Keywords: 1g , 2g , 3g , 4g , 5g , Bluetooth , Wi-Fi , blu-fi , nfc , wi-max.

References:

1. Garret Kaur et al “A SURVEY ON COOPERATIVE DIVERSITY AND ITS APPLICATIONS IN VARIOUS WIRELESS NETWORKS International Journal of Computer Science & Engineering Survey (IJCSES) Vol.2, No.4, November 2011
2. Christhuraj et al “A Comprehensive overview on different network simulators” International Journal Engineering and Technology vol 5 issue 1
3. Waqas Ikram et al Wireless Communication in Process Automation: A Survey of Opportunities, Requirements, Concerns and Challenges Presented at Control 2010, Coventry, UK, September 2010
4. G hazisaidi, et al “N.Fiber-wireless (FiWi) access networks: A survey” Communications Magazine, IEEE (Volume:47 , Issue: 2)
5. http://www.howstuffworks.com/
6. http://en.wikipedia.org/wiki/1G
7. http://en.wikipedia.org/wiki/2G
8. http://en.wikipedia.org/wiki/3G
9. http://en.wikipedia.org/wiki/4G
10. http://en.wikipedia.org/wiki/5G
11. http://articles.timesofindia.indiatimes.com/2012-02-04/ bangalore/31024309_1_wi-fi-facility-bluetooth-access-point

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37.

Authors: **Bilal Mubdir, Asaad M. Al-Hindawi, Sabah Hussien, Hussain Al-Rizzo**

Paper Title: **Smart Energy Monitoring and Control System Based on Wireless Communication**

Abstract: This paper presents new design of a smart energy meter integrated with a monitoring and control system to monitor the quality of electrical power supplied to consumers and to protect them upon abnormal situations with the capability of storing all the events in real date and time as a history. This system provides several advantages for utility companies such as consumed energy, issuing the bills remotely and use multiple tariffs for billing electricity at different times during the day. Also the system offers a capability to disconnect/resume the supply for a client if the bill has not being paid after a specific time or other clients caught in electricity theft.

Keywords: Energy Meter, PIC Microcontroller, Real Time & Calendar, Smart Meter, Serial Port Interfacing.

References:

1. Mendez, G.R.; Yunus, M.A.M.; Mukhopadhyay, S.C., "A WiFi based smart wireless sensor network for monitoring an agricultural environment", IEEE International Instrumentation and Measurement Technology Conference (I2MTC) , vol., no., pp.2640,2645, 13-16 May 2012
2. Yide Liu, “Wireless Sensor Network Applications in Smart Grid: Recent Trends and Challenges,” International Journal of Distributed Sensor Networks, vol. 2012, Article ID 492819, 8 pages, 2012.
3. Sun Hao, Yuan Huimei& Lu Simei, “A Design of Three-Phase Digital Watt-Hour Power Meter on SOPC Platform”, International Conference on Information Technology and Computer Science, pp:264, 2009.
4. Li Yujin, GengLiwei&Zheng Deyi,”On remote automatic meter reading system based on GPRS technology”, 29th Chinese Control Conference (CCC), pp:5731, 2010.
5. Kulkarni, A.S., Welch, K.C.&Harnett, C.K., “A review of electricity monitoring and feedback systems”, Proceedings of IEEE Southeastcon, pp: 321, 2011.
6. Arian, M., Soleimani, V., Abasgholi, B., Modaghegh, H.&Gilani, N.S., “Advanced Metering Infrastructure System Architecture”, Asia-Pacific Power and Energy Engineering Conference (APPEEC), pp:1, 2011.
7. http://www.openmeter.com
8. SMART METERS CO-ORDINATION GROUP FINAL REPORT (Version 0.7 – 2009-12-10), "Standardization mandate to CEN, CENELEC and ETSI in the field of measuring instruments for the development of an open architecture for utility meters involving communication protocols enabling interoperability - M/441"
9. Dong-Jun Won, Il-Yop Chung, Joong-Moon Kim, Seung-Il Moon, Jang-Cheol Seo & Jong-Woong Choe, "Development of Power Quality Monitoring System with Central Processing Scheme", IEEE Power Engineering Society Summer Meeting, pp:915-919, 2002.
10. Libano, F., Paranhos, I., Melchiors, J., Mano, O., Fehlberg, R., Braga, R.&Muller, S., "Power Energy Meter in a Low Cost Hardware Software", IEEE International SymposiumIndustrial Electronics, pp: 1712, 2006.
11. A. Pabla, “Electric Power Distribution”, New Delhi, Electric Power Distribution (McGraw-Hill Professional Engineering), 2007.
12. Math H. Bollen, M., “Understanding Power Quality Problems”, New York, IEEE Press & McGraw-Hill Inc, 2000.
13. PIC18F2525/2620/4525/4620 Data Sheet. M. T. Inc. USA, Microchip Technology Inc. http://www.microchip.com
14. Energy Metering IC with Pulse Output. A. D. Inc. Norwood, USA, Analog Devices Inc.http://www.analog.com
15. 18-pin Enhanced Flash/EEPROM Microcontroller. M. T. Inc. USA.
16. Lucio Di Jasio, Tim Wilmshurst, Dogan Ibrahim, John Morton, Martin P. Bates, Jack Smith, David W Smith& Chuck Hellebuyck, PIC Microcontrollers: Know It All. Burlington, USA, Newnes, 2008.
17. Shang-Wen Luan, Jen-Hao Teng, Shun-Yu Chan&Lain-Chyr Hwang, “Development of a Smart Power Meter for AMI Based on ZigBee Communication”, International Conference on Power Electronics and Drive Systems, pp: 661-665, 2009.
18. Nkom, B.&Musa, H., “Development of a Novel Microcontroller-based Data Logger”, 2nd IEEE International Conference on Adaptive Science & Technology, pp: 314, 2009.

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38.

Authors: **J.Naskath, R.Abinaya Gomathi**

Paper Title: **Proficient Multipath Routing and Hole Handling using Cascading Movement algorithm in WSN**

Abstract: Sensing technology is a cornerstone for many industrial applications. Manufacturing plants and engineering facilities, such as shipboard engine rooms, require sensors to ensure product quality and efficient and safe operation. Due to its scalability and efficiency, multipath routing has gained much research attention in routing primitive in wireless sensor networks (WSN). However, in multipath routing, due to ad hoc or random deployments and network dynamics of WSN, communication holes may exist in a network area. For long life efficient network need some recovery strategies for avoiding holes and smooth transmission of data. This paper explores the recovery strategy for an urgent transmission, forwarded packets through alternative path does exist in the multipath routing. For enduring shortest transmission, this paper proposed to reuse the same primary path, by replacing the holes using the redundant sensors.

Keywords: Sensor networks, Multipath routing, voidhandling, hole.

206-211

References:

1. Neha Jain and Dharma P. Agrawal "Current Trends in Wireless Sensor Network Design", International Journal of Distributed Sensor Networks, 1: 101–122, 2005.
2. Marjan Radi, Behnam Dezfouli, Kamalrulnizam Abu Bakar and Malrey Lee, "Multipath Routing in Wireless Sensor Networks: Survey and Research Challenges "Sensors 2012
3. G. Murali, D. Pavan, V.V. Rajesh Reddy, P. Bharath kumar, "Dynamic Routing With Security Considerations", International Journal of Computer Technology and Applications (IJCTA)., Vol 2 (6), NOV-DEC 2011.
4. Maheswari. K, Punithavalli.M, "Design and implementation of multipath routing approach for secured and reliable data delivery in VoIP", International Journal of Applied Engineering Research, Volume 2, No 2, 2011.
5. Yunfeng Chen and Nidal Nasser, "Enabling QoS Multipath Routing Protocol for Wireless Sensor Networks", IEEE, 2008.
6. Shiva Prakash, JP.Saini, "A Survey of Multipath Routing in Mobile Adhoc Networks", GJCAT, Vol 1 (1), 2011.
7. Jacob Salzmann "Energy and Coverage Aware Routing Algorithm in Self Organized Sensor Networks", GJCAT, Vol 1 (1), April 2007.
8. Yongguo Mei, Xian, Saumitra, and Yung-Hsiang Lu, "Sensor Replacement using Mobile Robots", Elsevier 2007.
9. Heping Wang, Xiaobo Zhang and Ashaf, "Efficient Void handling in contention-based geographic routing for wireless Sensor networks", IEEE GLOBECOM, 2007.

39.

Authors: **Debabrata Swain, G.Ramkrishna, Hitesh Mahapatra, Pramoda Patro, Pravin M.Dhanrao**

Paper Title: **A Novel Sorting Technique to Sort Elements in Ascending Order**

Abstract: Sorting is an operation to arrange the elements of a data structure in some logical order. In our daily lifes, without knowing about sorting we are doing works in sorted order. So that's why everybody must need an efficient sorting technique which will solve sorting problem with in limited time. So We have discussed about various existing sorting algorithms with their advantage and disadvantage. In this paper, we have proposed a new sorting algorithm which overcomes some common disadvantage of some traditional existing algorithms by properly utilizing the memory. Here, we have compared our algorithm with traditional existing algorithms by using some factors.

Keywords: Various sorting algorithms. Bubble sort, Selection sort, Insertion sort and Quick sort

References:

1. http://en.wikipedia.org/wiki/Sorting_algorithm
2. http://en.wikipedia.org/wiki/Selection_sort
3. http://en.wikipedia.org/wiki/Bubble_sort
4. http://en.wikipedia.org/wiki/Insertion_sort
5. http://en.wikipedia.org/wiki/Selection_sort
6. http://en.wikipedia.org/wiki/Quicksort
7. http://en.wikipedia.org/wiki/Merge_sort
8. http://www.cs.manchester.ac.uk/ugt/COMP26912/lecture/lecture-sorting.pdf
9. http://www.cs.ucf.edu/courses/cop3502/nihan/spr03/sort.pdf
10. Introduction to Algorithms by Thomas H. Cormen, Charles E. Leiserson, Ronald L. Rivest, fifth Indian printing (Prentice Hall of India private limited), New Delhi-110001
11. Computer Algorithms by Ellis Horowitz, Sartaj Sahni, Sanguthevar Rajasekaran, Galgotia publications,5 Ansari road, Daryaganj, New Delhi-110002
12. C.A.R. Hoare, Quick sort, Computer Journal, Vol. 5, 1, 10-15 (1962)
13. P. Hennequin, Combinatorial analysis of Quick-sort algorithm, RAIRO: Theoretical Informatics and Applications, 23 (1988), pp. 317–333
14. Lecture Notes on Design & Analysis of Algorithms G P Raja Sekhar Department of Mathematics I I T Kharagpur
15. Knuth D. (1997) "The Art of Computer Programming, Volume 3: Sorting and Searching'', Third Edition. AddisonWesley, 1997. ISBN 0-201-89685-0. pp. 138–141, of Section 5.2.3: Sorting by Selection
16. Let Us C by Yashvant Kanethkar, 8th edition (BPB publications).b-14 Connaught place, New Delhi-110001
17. MERRITT S. M. (1985), "An inverted taxonomy of Sorting Algorithms. Programming Techniques and Data Structures", Communications of ACM, Vol. 28, Number 1, ACM

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40.

Authors: **Mahesh Bilagi, Manjunath Lakkannavar**

Paper Title: **Microcontroller Based Direct Digital Synthesizer and FSK Modulator**

Abstract: Many possibilities for frequency generation are open to a designer, ranging from phase-locked-loop (PLL)-based techniques or very high-frequency synthesis, to dynamic programming of digital- analog converter (DAC) outputs to generate arbitrary waveforms at lower frequencies. But DDS's ability to accurately produce and control waveforms of various frequencies and profiles has become a key requirement common to a number of industries. Whether providing lively sources of low phase-noise variable-frequencies with good spurious performance for communications, or simply generating a frequency stimulus in industrial or biomedical test equipment applications, convenience, compactness and low cost are important design considerations.

Keywords: DDS and Digital to analog converter.

References:

1. J. Tierney et al., "A digital frequency Synthesizer," IEEE Trans Audio Electro acoustics. Vol. AU-19, pp.48-57, 1971.
2. Gutierrez-Aitken, et al., "Ultrahigh-Speed Direct Digital Synthesizer Using InP DHBT Technology", IEEE J. Solid-State Circuits, vol. 37, No.9, pp.1115–1119, Sept. 2002.
3. S. Mortezapour and E. K. F. Lee, "Design of Low-Power ROM-Less Direct Digital Frequency Synthesizer Using Nonlinear Digital-to-Analog Converter," IEEE J. Solid-State Circuits, vo1.34, no.10, pp. 1350-1359, 1999.
4. Dayu Yang and Foster F. Dai, "A 10GHz Nonlinear Cosine-Weighted DAC in High- Speed DDS", IEEE 5th Topical Meeting on Silicon Monolithic Integrated Circuits in RF Systems, Atlanta, GA, September, 2004.
5. Malinky Ghosh, Lakshmi S. J. Chimakurthy, F.Foster Dai, and Richard C. Jaeger, "A novel DDS architecture using nonlinear ROM addressing with improved compression ratio and quantization noise IEEE International Symposium on Circuits and Systems (ISCAS), pp.705-7 Vancouver,Canada, May 2004.
6. Yongchul Song, Beomsup Kim, "A 14-b Direct Digital Frequency Synthesizer with Sigma Delta Noise Shaping", IEEE J Solid State Circuits, vol 39, pp 847- 851, May 2004.

217-220

7. B. H. Hutchison, Jr., Frequency synthesis and applications, New York: IEEE Press, 1975.
8. F. Curticapean and J. Niittylahti, "Low-power direct digital frequency synthesizer," Proc. IEEE 43rd Midwest symposium on Circuits and Systems, 2000, on CD-ROM.
9. Gutierrez-Aitken, et al., "Ultrahigh-Speed Direct Digital Synthesizer Using InP DHBT Technology", IEEE J. Solid-State Circuits, vol. 37, No.9,pp.1115–1119, Sept. 2002
10. F. Curticapean and J. Niittylahti, "Low-power direct digital frequency synthesizer," Proc. IEEE 43rd Midwest symposium on Circuits and Systems, 2000, on CD-ROM

41.

Authors: **Abdelelah Kidher Mahmood, Mohammed Mahmood Abdulaal**

Paper Title: **Neural Network Observer Based Leak Detection and Localization System for Oil Transporting Pipelines**

Abstract: This paper considered with the design of two leak detection and localization systems in oil transporting pipeline. The first one based on mass balance principles and second one based on pressure gradient intersection. The main distinction of the both methods, thy have an intelligent observer structured by artificial neural network. Every system has been tested individually, and satisfactory results have been obtained with accurate and good performance. These methods collected together to work in parallel implementing a combined system, this system gives better performance and reduce the false alarm level.

Keywords: intelligent observer, LDS, leak detection and localization, leakage classifier, neural network observer, oil transporting pipeline,.

References:

1. Barbian, M. Beller, K. Reber, N. Uzelac, H. Willems, "ULTRASONIC IN-LINE INSPECTION: HIGH RESOLUTION CRACK DETECTION FOR PIPELINES USING A NEW GENERATION OF TOOLS"
2. Hu Qiong, Fan Shidong, "Development of Pipeline Leak Detection System based on LabVIEW", IEE 2008.
3. Gerhard Geiger, "State-of-the-Art in Leak Detection and Localisation", Pipeline Technology 2006 Conference.
4. Gerhard Geiger, Thomas Werner, Drago Matko, KNOWLEDGE-BASED MONITORING FOR PIPELINES", IFAC 2001.
5. Alaska Department of Environmental Conservation "Technical Review of Leak Detection Technologies Crude Oil Transmission Pipelines"
6. Arshad Ahmad, Mohd. Kamaruddin Abd. Hamid, "Pipeline Leak Detection System in a Palm Oil Fractionation Plant Using Artificial Neural Network", International Conference on Chemicaland bioprocess Engineering ICCBPE 2003, Kota Kinabalu, August 2003.
7. Dipl.-physiker Ralf Tetzner, "Model-Based Pipeline Leak Detection And Localization", 3R international (42) Heft 7/2003.

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42.

Authors: **Golluri Venu, G.Anitha, G.Ramchander**

Paper Title: **The Design of Video Surveillance System Using S3C2440 and 3G Module**

Abstract: In this paper, A wireless video surveillance system based on 3G Module and ARM9 is designed. The embedded chip and the programming techniques are adopted. The central monitor which adopts S3C2440 chip as controller is the core of the whole system. First, USB camera video data are collected by the embedded Linux system, processed, compressed and transferred by the processing chip. Then, video data are sent to the monitor client by GRPS network. Tests show the presented wireless video surveillance system is reliable and stable. And it has a perfect application prospects with real-time monitor.

Keywords: Embedded Linux; S3C2440; Monitoring; GPRS

References:

1. Zhong Chongquan. Research and application of remote monitoringbased on embedded web. Chinese Journal of Scientific Instrument,Vo1.27, pp.575-577, June.2006
2. Jinxue Zhan, Ming Zhang. Research and design of embedded tank car monitoring system based on ARM9. 2009 International Symposium on Computational Intelligence and Design. ISCID 2009. 2009,(2):292-295
3. Peng Daogang, Zhang Hao, Zhang Kai, Li Hui. Research and development of the remote I/O data acquisition system based on embedded ARM platform. 2009 International Conference on Electronic Computer Technology ICECT 2009,341-344
4. Dong Xie.ARM-based embedded remote monitoring and control system design Gateway. Modern electronic technology, 2006, pp. 85-88
5. Chen Rongfang, Wang Haibin, Hu Zhenhua, Zheng Pin. Remote Monitor System of Power Network Based on Embedded Internet Technology. Microcomputer Information. vol. 24, no. 7-2, pp. 78-80,2008
6. Zhang YuJie, Huai Weihua, Tian Ze. Design of Industrial Temperature Monitoring Equipment Based on Embedded Linux Operating System. Computer Engineering and Design, vol. 30, no. 17, pp. 3940-3942, 2009.

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43.

Authors: **T.K.Abdul Qadir, V.Venkateswarlu**

Paper Title: **Design and Implementation of Envelope Amplifier and Power Amplifier for Envelope Tracking in Polar Transmitters**

Abstract: Envelope tracking is an amplitude modulation technique for a polar transmitter. The circuit for implementing envelope tracking technique consists of an envelope amplifier (EA) and a power amplifier (PA) whose design and implementation on Cadence Virtuoso platform is presented. The envelope amplifier amplifies the envelope signal by a gain of 2 and the power amplifier requiring a power added efficiency (PAE) of 55-60% and a peak to average ratio (PAR) of 4-6dB tracks the envelope of the transmit signal to ensure it operates linearly, i.e. the supply voltage rides above the amplitude modulated signal. The envelope and phase signals are generated from envelope and phase power supply sources available in Cadence Virtuoso. The overall system efficiency is determined by the product of the envelope amplifier efficiency and PAE of the RF power amplifier.

Keywords: Polar transmitter, envelope tracking, phase modulation, amplitude modulation, envelope amplifier and power amplifier.

References:

1. J. Lopez, Y. Li, J. D. Popp, D. Y. C. Lie, C. C .Chuang, , " Design Of Highly Efficient Wideband Polar RF Transmitters Using Envelope Tracking Technique", IEEE JSSC VOL. 44,NO. 9, pp. 2276-2294, September 2010.
2. Feipeng Wang ,Donald F. Kimball, Jeremy D. Popp, Annie Hueiching Yang, Donald Y. Lie, Peter M. Asbeck and Lawrence E. Larson "

229-235

An Improved Power-Added Efficiency 19-dBm Hybrid Envelope Elimination and Restoration Power Amplifier for 802.11g WLAN Applications" , IEEE Transactions on Microwave Theory and Techniques, Vol. 54, No. 12, December 2006.
3. Chung Chun Chen , Hung Yang Ko , Yi-Chiuan Wang , H.W. Tsao , K.Y.Jheng and Andy Wu, "Polar Transmitter For Wireless Communication System", IEEE ISPCS International Symposium , 2005
4. M. Youssef, A. Zolfaghari, B. Mohammadi, H.Darabi and A.A.Abidi , "A Low Power GSM/Edge/WCDMA Polar Transmitter In 65-nm CMOS " , IEEE JSSC , VOL. 46,NO. 12, pp.3061-3074, December 2011.
5. H. Jensen, A. Zolfaghari, H. Darabi," Analysis and Design of Small Signal Polar Transmitters for Cellular Applications ", IEEE JSSC, VOL. 46, NO. 6, PP. 1237-1249, JUNE 2011.
6. J.Groe, "Polar Transmitters For Wireless Communications " IEEE Conference Magazine,pp. 58-63, September 2007 .
7. J. Choi , J. Yim, J.Yang , J. Cha , D. Kang , D. Kim , B. Kim , " A Sigma –Delta Polar Transmitter " , IEEE TMTT , VOL. 55 , NO. 12, PP. 2679-2690, December 2007.
8. Till Kuendiger, Joseph Schrey, Iman Taha, Yi Lin,Tao Dai, Li Liang, Song-Tao Huang, Yue Huang,"Cadence Op-Amp Schematic Design Tutorial for TSMC CMOSP35 ",December 7, 2001
9. D. Nageshwarrao, K. Suresh Kumar, Y. Rajasree Rao, G. Jyothi Nizam Institute Of Engineering & Technology, Nalgonda (Dt.), SSJ Engineering College, Sridevi Women's Engineering College, Sri Sidharatha Institute Of Technology, Thumkur, Karnataka, India "Implementation and Simulation Of CMOS Two Stage Operational Amplifier ".
10. R. T. Perry, S. H. Lewis, and A. P. Brokaw et al., "A 1.4 V supply CMOS Fractional Bandgap Reference," IEEE J. Solid-State Circuits, vol.42, no. 10, pp. 2180–2186, October 2007.
11. D. F. Kimball, J. Jeong "High-Efficiency Envelope-Tracking W-CDMA Base-Station Amplifier Using GaN HFETs", IEEE Trans. On Microwave Theory and Techniques, vol.54, no.11 ,November 2006.
12. F. Wang, "High Efficiency Linear Envelope Tracking and Envelope Elimination and Restoration Power Amplifier for WLAN OFDM Applications,"Ph.D. Dissertation, University of California, San Diego (2006).
13. P. Asbeck, D. Kimball, "Next Generation High-Efficiency RF Transmitter Technology for Base stations", Extended Abstracts of 2007 International Conference on Solid State Devices and Materials, pp. 146-147, September 2007.
14. P. Draxler, S. Lanfranco, et.al., "High Efficiency Envelope Tracking LDMOS Power Amplifier for W-CDMA", IEEE MTT-S International Microwave Symposium, pp.1534-1537 ,June 2006.
15. L. Kahn, "Single-Sided Transmission by Envelope Elimination and Restoration," Proc. IRE, pp. 803-806, July 1952.
16. T. Johansen, "Monolithic Microwave Integrated Circuits for Wideband SAR System," Ph.D. dissertation, Elect. Eng. Dept., Tech. Univ. of Denmark, Lyngby, Denmark, 2003.
17. S.C.Cripps,RF Power Amplifier for Wireless Communications, Artec House ,1999.
18. S.C.Cripps, Advanced Techniques in RF Power Amplifier Design, Artec House ,2002.
19. Kanbe, M. Kaneta, H. Kobayashi, H. Yui, YUI, N. Takai, H. Hirata, T. Shimura, K. Yamagishi, "New Architecture of Envelope Tracking Power Amplifier for Base Station" IEEE Asia Pacific Conference on Circuits and Systems, Macao, China, pp.296-299,December 2008.
20. Bakkaloglu, C. Chu, S. Kiaei, "A 10MHz Bandwidth 2mV Ripple PA Supply Regulator forCDMA Transmitters," ISSCC, pp.448-449 ,February 2008.
21. Wireless LAN Medium Access Control (MAC) and Physical Layer specifications, IEEE Std. 802.11a/b/g, 1999/1999/2003
22. G. B. Yundt, "Series- or Parallel-Connected Composite Amplifiers", IEEE Tran. Power Electronics, vol. PE-1, No.1, January 1986.
23. N.O. Sokal, and A. D. Sokal, "Class E – A New Class of High Efficiency Tuned Single Ended Power Amplifiers," IEEE J. Solid State Circuit, SC-10, No.3, pp.168-176, June 1975.
24. F. Wang, A. Ojo, D. Kimball, P. Asbeck and L. Larson,"Envelope Tracking Power Amplifier with Pre-distortion for WLAN 802.11g," in IEEE MTT-S Int. Digests 2004, pp.1543-1546 ,2004.
25. F. Wang, A. Yang, D. Kimball, P. Asbeck and L. Larson,"Design of Wide Bandwidth Envelope Tracking PowerAmplifiers for OFDM Applications ," to be published in IEEE Tran. Microwave Theory Tech.648.
26. H. R. Khan, A. Raheem Qureshi, Q. Wahab , "A Fully Integrated Class-E Power Amplifier in 0.13um CMOS Technology" , Electronic Engineering Department, NED University of Engineering & Technology, Division of Electronic Devices, Department of Electrical Engineering, Linköping University, Linköping, Sweden ,IEEE-2011.
27. Debasis Parida , "A Novel High Speed CMOS Comparator With Low Power Disipation And Low Offset", Department Of Electronics & Communication Engineering National Institute Of Technology Rourkela ,2010.
28. Dr. Paul M. Furth , Vishnu B. Kulkarni," Low-Voltage CMOS Comparators With Programmable Hysteresis," Master Of Science In Electrical Engineering New Mexico State University Las Cruces, New Mexico,2005.
29. Feipeng Wang, Donald Kimball, Jeremy Popp, Annie Yang, Donald Y. C. Lie, Peter Asbeck and Lawrence Larson,"Wideband Envelope Elimination and Restoration Power Amplifier with High Efficiency Wideband Envelope Amplifier for WLAN 802.11g Applications ", Dept. of Electrical and Computer Engineering, University of California at San Diego, La Jolla, CA Space and Naval Warfare System Center (SPAWAR), San Diego, CA.
30. K. N. Leung and P. K. T. Mok, "A sub-1-V 15-ppm/deg CMOS Bandgap Voltage Reference Without Requiring Low Threshold Voltage Device," IEEE J. Solid-State Circuits, vol. 37, no. 4, pp. 526–530, April 2002.
31. Microchip Technology ,"Buck Converter Design Example " , Microchip Technology Web seminars Incorporated,2006.
32. Jens Ejury ,"Buck Converter Design " , Infineon Technologies North America (IFNA) Corp. ,v0.1 , January 2013.

44.

Authors: **Atul N. Desai, Tejpal H. Goda**

Paper Title: **Matrix Representation of Multiplication**

Abstract: Multiplication is the basic process of mathematical operations. In the vedic mathematics for this lengthy process, a simple process is used with the help of urdhva tiryakbhyam sutra. It helps to avoid small work in calculator which can be manually done easily. If a person starts using this method without sufficient practice, many a times one can make mistakes in long calculations during cross and vertical multiplication and addition at a time. To avoid these mistakes a simple matrix form representation of the multiplication can help this technique without long calculation of multiplication and addition at a time.

Keywords: Matrix, Multiplication

References:

1. Vedic Mathematics by jagadguru swami sri,MOTILAL BANARSIDASS PUBLISHERS PRIVATE LIMITED,DELHI.
2. http://www.ijmrs.org/browse/volume-1-2013/september-2013-issue?download=26%3Aalternative-method-to-interpret-the-intermediate-step-in-multiplication-by-vedic-mathematics-urdhva-tiryakbhyam-sutras.pdf

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45.

Authors: **Abhinav Singh, Pranay Kumar, Sunil Singh**

Paper Title: **Vision, Principles and Impact of Reconfigurable Manufacturing System**

Abstract: The current day manufacturing environment is characterized by numerous challenges and changes. A typical manufacturing company faces constantly changing product volumes and mix. It is commonly recognized that traditional manufacturing systems do not fit to present market competition and a shift is needed. A great amount of research efforts has been put on looking for new manufacturing systems. However, many of these newly emerging approaches lack a Unified global view of manufacturing and address only some perspectives of manufacturing. The Requirements of product design in the 21st century present an ever-increasing challenge. And this Advanced Manufacturing System popularly named and known as Reconfigurable Manufacturing System can help us face and sustain this challenge.This paper shows the definition and background of Reconfigurable Manufacturing Systems. In this paper an overview of components of reconfigurable manufacturing system and comparisons of different manufacturing system with their merits and demerits are presented. The capabilities of reconfigurable manufacturing system, challenges of reconfigurable manufacturing system and key role in reconfigurable manufacturing system are explained. The characteristic of reconfigurable manufacturing system are also presented in this paper.

Keywords: Unified Global View

References:

1. White, C.C. and Anendaligam, G. (1993) 'A penalty function approach to alternate pairwise comparisons in ISMAUT', IEEE Transactions on Systems, Man, and Cyber., Vol. 23, No. 1, pp.330-333.
2. Awad, M., Kusela, J. and Ziegler, J. (1996) Object-Oriented Technology for Real-Time Systems, Prentic e Hall, NJ.
3. Dilts, D.M., Boyd, N.P. and Whorms, H.H. (1991) 'The evolution of control architecture for automated manufacturing systems',Journal of Manufacturing Systems, Vol. 10, No.1, pp.79-93.
4. Koren, Y. and Lo, C.C. (1992) 'Variable-gain cross-coupling controller for contouring', CIRP Annals, Vol. 40, No. 1, pp.371-374.
5. Pasek, Z.J., Park, J., Shan, Y., Koren, Y., Shin, K. and Ulsoy, A.G. (1995) 'An open architecture real-time control for machining processes', Proceedings of the 27th CIRP Int. Seminar on Manufacturing Systems, Ann Arbor, MI.
6. Watanabe, T. (1986) 'A model-based approach to adaptive control optimization in milling', ASME Journal of Dynamic Systems, Measurement and Control, Vol. 105, pp.56-64.

46.

Authors: **Abdolhamid Rahideh, Mohsen Gitizadeh, Sirus Mohammadi**

Paper Title: **A Fault Location Technique for Transmission Lines Using Phasor Measurements**

Abstract: This paper presents a fault location technique for two-terminal multisection compound transmission lines, which combine overhead lines with underground power cables, using synchronized phasor measurements acquired by global positioning system (GPS) based phasor measurement units (PMUs) or digital relays with embedded PMU or by fault-on relay data synchronization algorithms. The technique is extended from a two-terminal fault location method with synchronized phasormeasurements as inputs. A novel fault section selector is proposedto select the fault line section in advance. The proposed techniquehas the ability to locate a fault no matter where the fault is on overhead line or underground power cable. The adopted technique has a solid theoretical foundation and is direct and simple in terms of computational complexity. Both extensive simulation results and field test results are presented to demonstrate the effectiveness of the proposed scheme. The proposed technique has already been implemented in the Taiwan power system since the year 2008. Up to the present, the proposed technique yields excellent performance in practice.

Keywords: Fault location, phasor measurement units (PMUs), two-terminal compound transmission lines.

References:

1. D. Novosel, D. G. Hart, E. Udren, and M. M. Saha, “Fault locationusing digital relay data,” IEEE Comput. Appl. Power, vol. 8, no. 3, pp.45–50, Jul. 1995.
2. S. M. Brahma, “Fault location scheme for a multi-terminal transmissionline using synchronized voltage measurements,” IEEE Trans.Power Del., vol. 20, no. 2, pp. 1325–1331, Apr. 2005.
3. Y. Liao andM. Kezunovic, “Optimal estimate of transmission line faultlocation considering measurement errors,” IEEE Trans. Power Del.,vol. 22, no. 3, pp. 1335–1341, Jul. 2007.
4. J. Izykowski,E.Rosolowski, P. Balcerek,M. Fulczyk, andM.M. Saha,“Accurate noniterative fault location algorithm utilizing two-end unsynchronizedmeasurements,” IEEE Trans. Power Del., vol. 25, no. 1,pp. 72–80, Jan. 2010.
5. T. Takagi, Y. Yamakoshi, J. Baba, K. Uemura, and T. Sakaguchi, “Anew algorithm of an accurate fault location for EHV/UHV transmissionlines: Part I—Fourier transformationmethod,” IEEE Trans. PowerApp. Syst., vol. PAS-100, no. 3, pp. 1316–1323, Mar. 1981.
6. T. Takagi, Y. Yamakoshi, M. Yamaura, R. Kondow, and T. Matsushima,“Development of a new type fault locator using theone-terminal voltage and current data,” IEEE Trans. Power App. Syst.,vol. PAS-101, no. 8, pp. 2892–2898, Aug. 1982.
7. M. Kezunovic, J. Mrkic, and B. Perunicic, “An accurate fault locationalgorithm using synchronized sampling,” Elect. Power Syst. Res. J.,vol. 29, no. 3, pp. 161–169, May 1994.
8. M. Kezunovic and B. Perunicic, “Automated transmission line fault analysis using synchronized sampling at two ends,” IEEE Trans. Power Syst., vol. 11, no. 1, pp. 441–447, Feb. 1996.
9. C. J. Lee, J. B. Park, J. R. Shin, and Z. M. Radojevié, “A new two-terminal numerical algorithm for fault location, distance protection, and arcing fault recognition,” IEEE Trans. Power Syst., vol. 21, no. 3, pp.1460–1462, Aug. 2006.
10. Y. H. Lin, C. W. Liu, and C. S. Chen, “An adaptive PMU based fault detection/location technique for transmission lines with consideration of arcing fault discrimination part I : Theory and algorithms,” IEEE Trans. Power Del., vol. 19, no. 4, pp. 1587–1593, Oct. 2004.
11. Y. H. Lin, C. W. Liu, and C. S. Chen, “An adaptive PMU based fault detection/location technique for transmission lines with consideration of arcing fault discrimination, part II : Performance evaluation,” IEEE Trans. Power Del., vol. 19, no. 4, pp. 1594–1601, Oct. 2004.
12. C. W. Liu, K. P. Lien, C. S. Chen, and J. A. Jiang, “A universal fault location technique for N-terminal transmission lines,” IEEE Trans. Power Del., vol. 23, no. 3, pp. 1366–1373, Jul. 2008.
13. C. S.Yu, C. W. Liu, S. L. Yu, and J.A. Jiang, “AnewPMUbased fault location algorithm for series compensated lines,” IEEE Trans. Power Del., vol. 17, no. 1, pp. 33–46, Jan. 2002.
14. Y. H. Lin, C. W. Liu, and C. S. Yu, “A new fault locator for three-terminal transmission lines-using two-terminal synchronized voltage and current phasors,” IEEE Trans. Power Del., vol. 17, no. 2, pp. 452–459, Apr. 2002.
15. C. S. Chen, C. W. Liu, and J. A. Jiang, “A new adaptive PMU based protection scheme for transposed/untransposed parallel transmission lines,” IEEE Trans. Power Del., vol. 17, no. 2, pp. 395–404, Apr. 2002.
16. J. A. Jiang, C. S. Chen, and C. W. Liu, “A new protection scheme for fault detection, direction discrimination, classification, and location in transmission lines,” IEEE Trans. Power Del., vol. 18, no. 1, pp. 34–42, Jan. 2003.
17. C. S. Chen, C.W. Liu, and J. A. Jiang, “Application of combined adaptive fourier filtering technique and fault detector to fast distance protection,” IEEE Trans. Power Del., vol. 21, no. 2, pp. 619–626, Apr. 2006.
18. A. A. Girgis, D. G. Hart, and W. L. Peterson, “A new fault location technique for two and three-terminal lines,” IEEE Trans. Power Del., vol. 7, no. 1, pp. 98–107, Jan. 1992.

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19. L. Dalcastagnê, S. N. Filho, H. H. Zürn, and R. Seara, “An iterative two-terminal fault-locationmethod based on unsynchronized phasors,” IEEE Trans. Power Del., vol. 23, no. 4, pp. 2318–2329, Oct. 2008.
20. S. Yu, “An unsynchronized measurements correction method for two-terminal fault location problems,” IEEE Trans. Power Del., vol. 25, no. 3, pp. 1325–1333, Jul. 2010.
21. M. Gilany, E. S. T. Eldin, M. M. A. Aziz, and D. K. Ibrahim, “An accurate scheme for fault location in combined overhead line with underground power cable,” in Proc. IEEE Power Eng. Soc. Gen. Meet., San Francisco, CA, Jun. 12–16, 2005, vol. 3, pp. 2521–2527.
22. X. Yang, M. S. Choi, S. J. Lee, C. W. Ten, and S. I. Lim, “Fault location for underground power cable using distributed parameter approach,” IEEE Trans. Power Syst., vol. 23, no. 4, pp. 1809–1816, Nov. 2008.
23. A.G. Phadke and J. S. Thorp, Synchronized Phasor Measurements and Their Applications. Berlin, Germany: Springer, 2008.
24. Power System Blockset User’s Guide The Math Works, Inc, 2002.
25. A. Gross, Power System Analysis. New York: Wiley, 1986.
26. “Applied protective relaying,” Relay-Instrument Division, Westinghouse Electric Corp., Coral Springs, FL, 1982.
27. G. Benmouyal, “Removal of DC-offset in current waveforms using digital mimic filtering,” IEEE Trans. Power Del., vol. 10, no. 2, pp. 624–630, Apr. 1995.
28. A. L. Dalcastagnê, S. N. Filho, H. H. Zürn, and R. Seara, “An iterative two-terminal fault-locationmethod based on unsynchronized phasors,” IEEE Trans. Power Del., vol. 23, no. 4, pp. 2318–2329, Oct. 2008.
29. H. W. Dommel, EMTP Theory Book, 2nd ed. Vancouver, BC, Canada: Microtran Power Syst. Anal. Corp, 1992.
30. N. I. Elkalashy, M. Lehtonen, H. A. Darwish, M. A. Izzularab, and A.-M. I. Taalab, “Modeling and experimental verification of high impedance arcing fault in medium voltage networks,” IEEE Trans. Dielectrics and Electrical Insulation, vol. 14, no. 2, pp. 375–383, Apr.2007.

47.

Authors: **R. K. Prajapati, Rakesh Kumar Rai**

Paper Title: **A Review: Assessment of Indian Digital Defense & Forensics Investigation System**

Abstract: Computer forensic is a branch of science that does analysis of events happened in digital environment. Every change is traceable in digital form just like physical & chemical form of a material. Now technologies are rapidly growing to make convenient for everybody life. As we know science develops killing materials for us. This only provides some means like data processing, data storing, querying etc to solve our daily hard problems. Once events happened in digital environment will leave the trace or not? If answer is no then what we are developing really become a killing materials nothing more than that. But it is not always true. Every change leaves a trace. These trace should be measured to identify and quantification of changes in digital environment. Today text, image, audio, video and animation various type of data are becoming common to share in digital communication. We all are very use to share our own pictures, videos online with our friends. But if something were changed by any person intentionally or unintentionally then it creates problems for us. In this paper we will discuss important digital documents that can be forged, available forging methods, tracing forgery in digital documents [8], [10], impacts on overall evidences and justice. Our main objective to discus some points in this paper that can be treated as milestones to seize & restore evidences to provide secondary opinion for honorable judiciary.

Keywords: Forensics, Digital data, electronic evidence, steganography, volatile data etc.

References:

1. Matt Bishop, Deborah A. Frincke, “ Teaching Digital Forensics to Undergraduate Students” IEEE Security & Privacy, May/June 2008, page 54-56.
2. [2]Hung-Min Sun, Chi-Yao Weng, Chin-Feng Lee, and Cheng-Hsing Yang, “Anti-Forensics with Steganographic Data Embedding in Digital Images”, IEEE JOURNAL ON SELECTED AREAS IN COMMUNICATIONS, VOL. 29, NO. 7, AUGUST 2011, p1392-1403.
3. V. M. Potdar, M. A. Khan, E. Chang, M. Ulieru and P. R. Worthington, “E-Forensics Steganography System for Secret Information Retrieval,” Advanced Engineering Informatics, vol. 19, no. 3, pp. pp. 235-241, 2005.
4. R. Healy, “Using Electronic Evidence form Proprietary Devices: Opportunities and Implications for Court Evidence,” in Proc. Seventeen International Symposium forensic sciences, New Zealand, 2004.
5. Simson L.,” Forensic feature extraction and cross-drive analysis” , Garfinkel Center for Research on Computation and Society , Harvard University, Cambridge, MA 02139, USA.
6. Nick L. Petroni Jr.a AAron Waltersb,Timothy Frasera, William A. Arbaugha, “ FATKit: A framework for the extraction and analysis of digital forensic data from volatile system memory Digital Investigation”, Volume 3, Issue 4, December 2006, Pages 197–210.
7. Vidya Rajarao et al, “Safeguarding organizations in India against Cyber crime”, PwC Brand and Communications India, Global economic crime survey 2011.
8. Matthew C. Stamm and K. J. Ray Liu, “FORENSIC ESTIMATION AND RECONSTRUCTION OF A CONTRAST ENHANCEMENT MAPPING”, ICASSP 2010, page 1698-1701.
9. http://cbi.nic.in/cfsl
10. Hany Farid ,”Image Forgery Detection”, IEEE SIGNAL PROCESSING MAGAZINE, MARCH 2009, page-16-25

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48.

Authors: **A.S.Rajagopalen, B.K.Darshan, G.Murugan**

Paper Title: **Solar Activity Monitoring Through Real Time Recording of VLF Wave Amplitude**

Abstract: In its latest findings, NASA has come up with a prediction of a massive solar storm (flare) that can hit earth anytime in 2012-13. Right from GPS systems, credit card transactions, mobile phone services, communication services, radio and air travel to smart power grids and electrical transformers, all are vulnerable to the solar storm. The damage can be controlled by putting satellites in safe mode. The power grids can be saved by disconnecting them from the supply and transformers. This will require an accurate forecasting about the coming solar storm. This project is designed to monitor solar flares on Earth by tracking changes in Very Low Frequency (VLF) radio transmissions as they bounce off Earth’s ionosphere. The strength of the received signal changes according to the extent of ionization in the ionosphere. Thus, by monitoring the amplitude of VLF signals, the appearance of solar flares can be detected.

Keywords: Radio SkyPipe, Solar Flare, Sound Card, Very Low Frequency

References:

1. D. Grubor, D. Sulic and V. Zigman (2005), ‘Influence of Solar X-Ray Flares on the Earth- Ionosphere Waveguide’, Serb. Astron., J. No. 171, pp. 29-35.

253-261

2. J. Y. Liu, C. H. Lin, H. F. Tsai and Y. A. Liou (2004), 'Ionospheric Solar Flare Effects Monitored by the Ground-Based GPS Receivers: Theory and Observation', Journal of Geophysical Research, Vol. 109.
3. Norm Cohen and Kenneth Davies (1994), 'Radio Wave Propagation'.
4. Qu Ming, Shih Frank, Jing Ju and Wang Haimin (2004), 'Automatic Solar Flare Tracking Using Image Processing Techniques'.
5. Sujay Pal, Tamal Basak and Sandeep. K. Chakrabarti (2010), 'Results of Computing Amplitude and Phase of the VLF Wave using Wave Hop Theory', Advances in Geosciences, Vol. 27.
6. M. Waheed-uz-Zaman and M. A. K. Yousufzai (2011), 'Design and Construction of Very Low Frequency Antenna', Journal of Basic and Applied Sciences, Vol. 7, No. 2, pp. 141-145.

49.

Authors: **B.T.R.Naresh Reddy, Prasad Nagelli, K.Srinivasulu Reddy**

Paper Title: **Event Analysis in Intelligent Aerial Surveillance Systems for Vehicle Detection and Tracking**

Abstract: Vehicle detection plays an important role in the traffic control at signalized intersections. One of the Advanced Event Assistance systems are being researched nowadays for Intelligent Vehicles has to deal with the detection and tracking of other vehicles. The present system to detect and track moving vehicles based on detectors and classifiers. In previous approach escapes some of the existing frameworks for detection vehicles in traffic monitoring systems. Moving vehicles detection based on the pixelwise classification in both detectors and classifiers using multilayer perceptrons and Dynamic bayesian network. Pixel wise classification provides not only region wise but also sliding window also detected the vehicles. The feature extraction performed in both training and detection stages. In the classification used dynamic Bayesian networks and in this network vehicle and non vehicle are identification purpose use a support vector machine. The classification of vehicles and non vehicles are identification purpose used a color histogram algorithm. In this framework used two detectors and two classifiers. Two detectors for local feature extraction are Harris corner detector and canny edge detector. Then, two classifiers of color feature extraction, SVM and multilayer perceptrons are introduced. Both of them have good performance on vehicle color classification but we choice SVM for color feature extraction in our system. Finally, the training process and classification process of dynamic Bayesian network are utilized. In experimental results are shown in different videos are taken at different cameras and different heights in surveillance systems.

Keywords: Aerial surveillance, Canny edge detection, Dynamic Bayesian Networks, Multilayer Perceptrons Soft Computing, Vehicle Detection.

References:

1. Hsu-yung cheng, Chih-chia weng and yi-ying Chen," vehicle detection in aerial surveillance using dynamic Bayesian Networks", IEEE April-2012, vol.21, no.4.
2. R. Kumar, H. Sawhney, S. Samarasekera, S. Hsu, T. Hai, G. Yanlin, K. Hanna, A. Pope, R. Wildes, D. Hirvonen,M. Hansen, and P. Burt (2001), "Aerial video surveillance and exploitation," Proc. IEEE, vol. 89,no. 10, pp. 1518-1539.
3. I. Emst, S. Sujew, K. U. Thiessenhusen, M. Hetscher, S. Rabmann, and M. Ruhe (2003), "LUMOS—Airbome traffic monitoring system," in Proc. IEEE Intell. Transp. Syst., vol. 1, pp.753-759.
4. L. D. Chou, J. Y. Yang, Y. C. Hsieh, D. C. Chang, and C. F. Tung (2011), "Intersection- based routing protocol for VANETs," Wirel. Pers. Commun., vol. 60, no. 1, pp. 105-124.
5. S. Srinivasan, H. Latchman, J. Shea, T. Wong, and J. McNair (2004), "Airborne traffic surveillance systems: Video surveillance of highway traffic," in Proc. ACM 2nd Int. Workshop Video Surveillance Sens. Networks. pp. 131-135.
6. A. C. Shastry and R. A. Schowengerdt (2005), "Airborne video registration and traffic-flow parameter estimation," IEEE Trans. Intell. Transp. Syst., vol. 6, no. 4, pp. 391-405.
7. H. Cheng and J.Wus (2005), "Adaptive region of interest estimation for aerial surveillance video," in Proc. IEEE Int. Conf. Image Process., vol.3, pp. 860-863.
8. H. Cheng and D. Butler (2001), "Segmentation of aerial surveillance video using a mixture of experts," in Proc. IEEE Digit. Imaging Comput.-Tech. Appl., p. 66.
9. R. Lin, X. Cao, Y. Xu, C.Wu, and H. Qiao (2008), "Airborne moving vehicle detection for urban traffic surveillance," in Proc. 11th Int. IEEE Conf. Intell.Trans. Syst., pp. 163-167.
10. L. Hong, Y. Ruan, W. Li, D. Wicker, and J. Layne (2008), "Energy-based video tracking using joint target density processing with an application to unmanned aerial vehicle surveillance," IET Comput. Vis., vol. 2, no. 1, pp. 1-12.
11. R. Lin, X. Cao, Y. Xu, C.Wu, and H. Qiao (2009), "Airborne moving vehicle detection for video surveillance of urban traffic," in Proc. IEEE Intell. Veh. Symp, pp. 203-208.
12. C. G. Harris and M. J. Stephens (1988), "A combined corner and edge detector," in Proc. 4th Alvey Vis. Conf., pp. 147-151.
13. J. F. Canny (1986), "A computational approach to edge detection," IEEE Trans. Pattern Anal. Mach. Intell., vol. PAMI-8, no. 6, pp. 679-698.
14. W. H. Tsai (1985), "Moment-preserving thresholding: A new approach," Comput. Vis.Graph. Image Process. vol. 29, no.3, pp 377-393.
15. L. W. Tsai, J. W. Hsieh, and K. C. Fan (2007), "Vehicle detection using normalized color and edge map," IEEE Trans. Image Process., vol. 16, no. 3, pp. 850-864.
16. S. Russell and P. Norvig (2003), "Artificial Intelligence: A Modern Approach", 2nd Ed.
17. N. Cristianini and J. Shawe-Taylor (2000), "An Introduction to Support Vector Machines and Other Kernel-Based Learning Methods". Cambridge, U.K.: Cambridge Univ. Pres.
18. S. Hinz and A. Baumgartner (2001), "Vehicle detection in aerial images using generic features, grouping, and context (2001)," in Proc. DAGM-Symp., vol. 2191, pp. 45-42..
19. J. Y. Choi and Y. K. Yang (2009), "Vehicle detection from aerial images using local shape information," Adv. Image Video Technol., vol. 5414, pp. 277-236.
20. M.B. Ahmad and T.S. Choi (1999), Local Threshold and Boolean Function Based Edge Detection, IEEE Transactions on Consumer Electronics, Vol. 45, No 3.
21. J.P. MacCormick and A. Blake (1999), A probabilistic exclusion principle for tracking multiple objects, in ICCV99, 572-578.
22. H. Tao et al. (1999), A sampling algorithm for tracking multiple objects, in Vision Algorithms.
23. C. Hue, J.P. Le Cadre and P.Perez (2002), Tracking multiple objects with particle filtering, IEEE Transactions on Aerospace and Electronic Systems, 791-812.
24. K.Srinivasulu Reddy, A. Bhanu Prasad (2013), Automatic Vehicle Detection and Tracking for Event Analysis in Intelligent Aerial Surveillance Using Dynamic Bayesian Networks", IJERT, Vol.2, no.2.

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50.

Authors: **A.S.Rajagopalen**

Paper Title: **Identification of an Effective Controller for a Stirred Tank Heater Process**

Abstract: Safety and the satisfaction of production specifications are the two primary operational or

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functional objectives for a chemical plant. Once these two important factors are achieved , the next goal is to make the plant more profitable. Given the fact the conditions which affect the operation of the plant do not remain the same, it is clear that it is mandatory that the operation of the plant is changed in order to maximize the economic objective . This task is undertaken by the controllers of the plant. These controllers are the subject of interest in this paper , where a chemical process like a stirred tank heater is controlled using the PID , the IMC based PID and the adaptive controller. A mathematical model of the stirred tank heater is developed and the different control mechanisms are applied to it. A simulation study is carried out using MATLAB to control the process system using the above mentioned control techniques. With the help of the simulation studies and the time integral performance criteria, we can deduce which controller is the most suitable for a stirred tank heater system

Keywords: Adaptive Control, IMC based PID Control, PID Control, Stirred Tank Heater

References:

1. Rahul Upadhyay and Rajesh Singla (2010) , ‘ Application of adaptive control in process control’ , 2nd International Conference on Educational Technology and Computer
2. M.C.Colantonio , J.A.Romagnoli, A.Deoages , A.Palazoglus (1992), ‘A hybrid non linear controller’ – Case study of a CSTR
3. P. Dostál, M. Kubalčík, V. Bobál, and J. Vojtěšek ,(2011)‘Nonlinear Adaptive Control of a Chemical Reactor’ , 19th Mediterranean Conference on control and instrumentation
4. R.Aruna and M.Senthil Kumar (2011), ‘ Adaptive control of thermal process’ Proceedings of ICETECT 2011
5. T.Zhang and M.Guay (2001) , ‘Adaptive non linear control of stirred tank reactor systems’ Proceedings of the American Control Conferennce
6. Wayne Bequette .B, Process Control Modeling Design and Simulation, Mcgraw Hill India
7. Brian R.Copeland (2008) , ‘The design of PID tuning using Zeigler Nichols tuning’

51.

Authors: **Pradip Ramdas Bodade, Dinesh Kumar Koli**

Paper Title: **Experimental Investigation on Convective Heat Transfer Analysis in a Circular Tube with Internal Threads of Different Pitches**

Abstract: The present work focus on Experimental investigation of heat transfer and friction factor characteristics of horizontal circular pipe using internal threads of pitch 1 cm and 0.5cm with air as the working fluid. The flow regime is selected for this study with the Reynolds number range 17,000 to 30,000. The horizontal aluminum pipe was subjected to constant and uniform heat flux. The experimental data obtained were compared with those obtained from plain Horizontal pipe. The effects of internal threads of varying pitch on heat transfer and friction factor were presented. Based on the same pumping power consumption, the pipe with internal threads possesses the highest performance factors for turbulent flow. The heat transfer coefficient enhancement for internal threads is higher than that for plain pipe for a given Reynolds number. The use of internal threads improved the performance of horizontal circular pipe.

Keywords: Enhancement, internal threads, heat transfer and turbulent flow.

References:

1. Soo Wban Abn and Kang Pil Son “An Investigation on Friction Factors and Heat Transfer Coefficients in a Rectangular Duct with Surface Roughness” KSME International Journal Vol 16 No.4, pp. 549-556, 2002.
2. Hamidou Benzenine , Rachid Saim and Said Abboudi, Omar Imine “ Numerical analysis of a turbulent flow in a channel provided with transversal waved baffles”.
3. Rajendra Karwa and B.K. Maheshwari “Heat transfer and friction in an asymmetrically heated rectangular duct with half and fully perforated baffles at different pitches” International Communications in Heat and Mass Transfer 36 (2009) pp. 264–268.
4. Prashanta Dutta and Akram Hossain “Internal cooling augmentation in rectangular channel using two inclined baffles” International Journal of Heat and Fluid Flow 26 (2005),pp. 223–232
5. Kang- Hoon Ko and N.K. Anand “Use of porous baffles to enhance heat transfer in a rectangular channel” International Journal of Heat and Mass Transfers 46 (2003) pp. 4191– 4199.
6. Waleed Mohammed Abed and Mohammed Abed Ahmed “Numerical Study Of Laminar Forced Convection Heat Transfer And Fluid Flow Characteristics In A Corrugated Channel” Journal of Engineering and Development, Vol. 14, No. 3, September (2010) ISSN 1813-7822.
7. S. Naga Sarada, A.V. Sita Rama Raju, K. Kalyani Radha and L. Shyam Sunder Enhancement of heat transfer using varying width twisted tape inserts International Journal of Engineering, Science and Technology Vol. 2, No. 6, 2010, pp. 107-118.
8. Tang Xinyi and ZHU Dongsheng “Experimental and Numerical Study on Heat Transfer Enhancement of a Rectangular Channel with Discontinuous Crossed Ribs and Grooves” fliud dynamics and transport phenomena Chinese Journal of Chemiacal Engineering, 20(2) 220—230 (2012)
9. Ameer A. Jadoaa “Experimental Investigations Heat Transfer and Pressure Drop Characteristics of Flow Through Circular Tube Fitted With Drilled Cut-Conical Rings Eng. & Tech. Journal, Vol. 29, No.3, 2011.pp 477-487
10. Teerapat Chompookham, et al. “Heat transfer augmentation in a wedge-ribbed channel using winglet vortex generators” International Communications in Heat and Mass Transfer 37 (2010) 163–169
11. Shyy Woei Chang, Ker-Wei Yu, and Ming Hsin Lu Heat transfers in tubes fitted with single, twin and triple twisted tapes Taylor & Francis Inc. 279–294, 2005
12. R.K. Rajput,a text book of “Heat and Mass Transfer”,
13. C.P. Kothandaraman, S Subramanyan “Heat and Mass Transfer Data book”.

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52.

Authors: **P.V.V. Satyanarayana, N. Pradeep, N. Sai Chaitanya Varma**

Paper Title: **A Study on the Performance of Pond Ash In Place of Sand and Red Soil as A Subgrade and Fill Material**

Abstract: Industrial wastes have been gaining importance as a geotechnical material in the present days. Due to specific advantages, materials like flyash, pond ash have been considered as a replacement to natural soils. In this an attempt is made to study pond ash as a geotechnical material. To study pond ash as a geotechnical material for sub-grade and fill material, tests like gradation, compaction, CBR, strength and seepage parameters etc., have been conducted on the sample and compared with sand particles. From the test results it is identified that pond ash can withstand high strength by varying moisture contents, good drainage characteristics and incompressible nature like

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sand particles

Keywords: Crusher dust, Sand, Red soil, Angle of shearing resistance, CBR.

References:

1. Bera A.K., Ghosh A, Ghosh A (2007). "Compaction characteristics of pond ash". Journal of Materials in Civil Engineering ASCE, 19 (4): 349-357.
2. David croney and Paul croney (1992) "The design and performance of road pavements" Mc Graw Hill International Edition.
3. Ghosh A. et al, (2005) "Bearing capacity of square footing on pond ash reinforced with jute-Geotextile" journal of Geotextiles and Geomembranes Volume 23 Issue 2, April 2005, Pages 144-173.
4. IS 2720 : Part 3 : Sec 2 : 1980 Test for Soils - Part III : Determination of Specific Gravity - Section 2 : Fine, Medium and Coarse Grained Soils
5. IS 2720 : Part 4 : 1985 Methods of Test for Soils - Part 4 : Grain Size Analysis
6. IS 2720 : Part 8 : 1983 Methods of Test for Soils - Part 8 : Determination of Water Content-Dry Density Relation Using Heavy Compaction
7. IS 2720 : Part 13 : 1986 Methods of Test for Soils - Part 13 : Direct Shear Test
8. IS 2720 : Part 16 : 1987 Methods of Test for Soil - Part 16 : Laboratory Determination of CBR
9. IS 2720 : Part 17 : 1986 Methods of Test for Soils - Part 17 : Laboratory Determination of Permeability
10. Kolay, P.K et al (2011), "Tropical peat soil Stabilization using class F pond ash from coal Fired power plant" World Academy of Science, Engineering and Technology pp. 74, 2011.
11. Kumar, R., Kanaujia, V.K. and Chandra, D., 2007, "Engineering Behavior of Fiber-reinforced Pond ash and Silty Sand", Geosynthesis International, Vol.6, No. 6, pp. 509-518.
12. Ministry of Road and Highways "Pocket book for Highway engineers" published by Indian Road Congress, 2002.
13. Raju Sarkar, "Compaction characteristics of Pond ash" 10th International Symposium on Environmental Geotechnical and Sustainable Development, 2009.
14. Sridharan. A, et.al (1996), N.S. Pandian and C.Rajasekhar, Geotechnical characterization of pond ash, Ash Ponds and Ash Disposal systems (V.S.Raju et.al Eds), Narosa Publishing House, New Delhi, Pp.97-108 (1996).
15. Sridharan. A, et.al (1999), N.S. Pandian and S.Srinivas, Shear Strength Characteristics Of Pond Ash For Use As structural Fills, Fly Ash Disposal and Deposition: Beyond 2000 Ad(V. Dayal et. al., Eds), Narosa Publishing House, New Delhi (1999).
16. Temel Yetimoglu et al, "A study on bearing capacity of randomly distributed fiber reinforced sand fills overlying soft clay" Geotextiles and Geomembranes Volume 23, Issue 2, April 2005, Pages 174-183.
17. Venkatappa Rao. G et.al, (2011) "Behavior of a strip footing on compacted pond ash reinforced with coir Geotextiles" International journal of Advanced technology in Civil engineering, Vol. 1 April (2011).

53.

Authors: **Jassam Gzar Lafta, Hussein Shaheed Fadhil, Ameer Abass Hussein**

Paper Title: **Heavy Metals Distribution and the Variation of Soil Properties around Alqaim Cement Factory in Anbar Governorate - Iraq**

Abstract: Soil samples collected in June 2012 (24 samples random for (0 – 30 cm) depth). It is worth mentioned that the sampling were undertaken in the direction of the prevailing wind direction away from the vicinity of cement fabric. Soil samples were air dried and sieved through 2mm analyzed for their some chemical and physical properties as well as their total heavy metals content. The results indicated that the soils of the studied area are calcareous in nature having (23% - 37.6%) sandy clay loam to sandy loam in CaCo2 texture and moderately to slightly alkaline with mean (PH 8.7) especially in the surface soil samples taken near the cement factory. The soils were heavily contaminated with Cd and Co and Ni for the level of (WHO) while it was non polluted with other heavy metals. The most contaminated sites area found withen the (0 to 3km) of the cement factory.

Keywords: Heavy metals distribution, Soil properties, Cement factory, Alqaim (Anbar)

References:

1. Al-Khashman,, O. A. and R, A. Shawabkeh, (2006), Metals Distribution in soil around the cement factory in southern Jordan, Environ, Poll.,140.
2. Al-Omran, A. M. and S. E. El-Maghraby, (2011). Impact of cement dust on some soil properties around cement factory in Al-Hasa Oasis. Amer. Eurasian J.Agric. and Environ. Sci, 11(6):840-846.
3. Hossner, L.R.,(1996), Dissolution for total elemental analysis in methods of soil analysis, Part 3. 3rd Edition chemical methods, Edited by Sparks et al, Soil Sci. Soc. Am. And Am. Soc. Agron., Madison. WI PP:46.
4. Iqbal , M.Z. and M. shafig . (2001) Periodical Effect of Cement Dust Pollution on the Growth of Some Plant Species. Turk- J. Bot., 25: 19-24.
5. Kaeq , O . and L. Bolat, (2007) Impact of Alkaline Dust Pollution on Soil Microbial Biomass Carbon .Turk. J.Agric., 31:181 -187.
6. Lindsay, W. (1979) . Chemical Equilibrium in Soil 1st Edition. A Wiley Inter. Sci. Pub. John Wiley and Sons, New York.
7. Loeppert, R.H. and D, L.Suarez (1996) . Carbonate and Gypsum. Manometer Method. In Methods of Soil Analysis. part 3: Chemical Methods. 3(Edition. Soil Sci Soc. Am. Madison, WI., pp : 437-474.
8. Morghom, L. 0. N. A.Darid ; H. A. Sreiweel and A.Soliman. (2000). Effect of Volatile Cement Dust on the Soil Properties Surrounding the Area Around Cement Factories. Inter. Cement Conf. , Tunis , pp: 800.
9. Richards, L.D., (1954) . Diagnosis and Improvement of Saline and Alkali Soils. V.S.Salinity Laboratory staff. Agro Handbook No.60\
10. Rodriguez Martin, J.A. ; M , Lopez. Arias and J, M. Graucorbi . (2006) Heavy Metals Contents in Agricultural Soils in the Ebro Basin (span). Application of Multivariate Geo Statistical Methods to Study Special Variation. Environ. Poll., 144 : 1001- 1012.
11. Saralabai, V.c. and M , Vivekanadau (1995) . Effect of Application Cement Kiln- Exhaust or Selected Soil Physic Chemical and Biological Properties. Fest. Rest.,40: 193-196.
12. Sparks, D.L.; A, L. Page; R, H. Miller. and D, R. Keeney. (1996) . Methods of Soil Analysis, Part 3. Chemical Methods. 3td Edition. Am. Soc. Agron. and Soil Sci. Am., Madison, WI.
13. Xiaoyu, Li. ; L, Liu, ; Y, Wang, and G, Luo. (2012) . Integrated Assessment of Heavy Metal Contamination in Sediments from a Coastal Industrial Basin,NE China. Open. Access Freely Available Online.vol.7 (6): 1-10.
14. Zargari,F.and H, H.Shoar. (2008) Effect of Various Levels of Cement Dust on Seed Germination and Early Seedling Growth in 2 Cultivates of Helianthus am L. Reser. J. Biol Sci.,3:1 189-1193.
15. Zerrouqi, Z.; M, Sbaa. ; M, Oujidi. and M , ElKharmouz. (2008) . Assessment of Cements Dust Impact on the Soil Using Principal Component Analysis and GIS. mt. J. Environ. Sci Tec.5:125- 134.

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54.

Authors: **Zuhair Abdul Wahab Al-Jawahriy**

Paper Title: **Building a Digital Elevation Model for Razaza Lake by Using GIS**

Abstract: The research involves getting aid from NASA through downloading the data relevant to the area under

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study and inferring the coordinates after several modifications on them have been carried out, using specialized programs.

Razaza Lake(In Iraq) has been selected in order to reach several details such as the number islands in the lake, terrain survey, lake boundaries and nature of the land bordering it, the lake water level at the time the radar readings are taken when the lake surface area is calculated. and also find:- Radar readings are not useful for areas submerged in water- The lowest and highest elevations of the area under study are 19 and 159m respectively- The surrounding areas are inclined gradually towards the Lake , except those on the south east (which are located in Kerbala province, which are characterized by sharp rise whose elevation reaches 100 m- It is easy to plan for making roads and for urban housing projects through visual inspection of area solid model

Keywords: Radar readings are not useful for areas submerged in water

References:

1. Seeruttum,S.and Crossley,C.P,"Use of Digital Terrain Modeling for Farm Planning for MechnialHarvest of Sugar Cane in Mauritius", Computers and Electronics in Agriculture,18,pp,29-42,1997
2. Al-Azzawi, Ali Abdabas, analysis surface Altdharysa of digital elevation model using the software (GIS), Mosul University, 2000, p 1(In Arabic)
3. The Ministry of Natural Resources Environment and Meteorology .Beca International Consultants Ltd , October 2005
4. John, Wilson,John C.Gallant, Terrain Analysis:Principles and Applications ,Wiley p39, ,2000
5. Simon,WU, Jonathan Li, and G.H. Huang,A study on Dem primary Topographic Attributes for Hydrologic Applications: Sensitivity to Elevation Data Resolution, Journal of Applied Geography,Vol28, Issue3, , Pages 210-223July 2008
6. Michael P.Bishop ,John Schroder , Geographic Information Science and Mountain Geomorphology, Springer ,p426 , 2004
7. Richard H.Groshong, 3-D Structural Geology, 2nd Edition, Birkhäuser, p36, 2006
8. Shunlinlinng, Quantitative Remote Sensing of Land Surface, Wiley,p242,2003
9. John P.Wilson.JohnC.Gallant, Terrain Analysis (Principles and Application ,Wiley ,p3,2000 10-John Shanze, EvzenZeman Jiri Marsalek, Flood Risk Management Hazards, Vulnerability and Mitigation Measures, ,Springer,p131,2006
10. Christopher, Geographical information Systems and Computer Cartography ,Addison Wesley Longman Limited, pp.19-38s,1999

55.

Authors: **Tlotlollo Sidwell Hlalele, Shengzhi Du**

Paper Title: **Real Time Monitoring Of High Voltage Transmission Line Conductor Sag: The State- of-The-Art**

Abstract: there have been developments in real time monitoring of a power transmission line system for the past and in recent years. This paper characterizes and evaluates various methods developed to measure conductor sag in real time. Some of the methods are still at initial stage of simulation and have not yet been applied in industry, while others are currently used by the power utility companies around the world. The optimum use of existing high voltage transmission lines requires a real time condition monitoring. In South Africa, detecting such critical infrastructure proactively in real time is still a challenge. We synthesis these methods and review the current power line carrier used by ESKOM South Africa. We conclude by drawing attention to the accuracy and strength of possible methods which could be applicable in future.

Keywords: Power quality, Reliability and Sag

References:

1. A. Cataliotti et al., “Characterization of current transformers in the presence of harmonic distortion, Presented at the” IEEE Int. Instrum. Meas. Technol. Conf., Victoria, Vancouver Island, Canada, 2008.
2. L. Fish, Low Cost Sensors for Real Time Monitoring of Overhead Transmission Lines. Washington, DC: Underground Systems Inc., 2006.
3. February 5, 2010, Tension Monitor [online], available online http://www.cat-1.com).
4. G. Thomas Heydt, fellow, IEEE, “Application of the Global Positioning System to the Measurement of overhead Power Transmission Conductor Sag,” IEEE Trans. Power Del., Vol. 17 NO. 1, pp 273-278, January 2002.
5. R.G. Olsen and K.S. Edward, “A new method for real-time monitoring of high-voltage transmission-line conductor sag,” IEEE Trans, Power Del., vol.17 no.4 pp. 1142-1152, Oct. 2002.
6. C Mensah-Bonsu, “Novel application of Magnetoresisteve Sensors for High-Voltage Transmission-Line Monitoring,” IEEE on Magnetics, Vol. 47 NO. 10 October 2011.
7. S.W. Rienstra, “Nonlinear free vibration of coupled ns. Power Delivery, vol. PWRD-2, pp. 851-856, July 1987. spans of overhead transmission lines,” in proc. 3rd Eur. Conf. Math. Ind., 1988 pp 133-134.
8. R. G. Olsen and K.S. Edwards, “A new method for real-time monitoring of high voltage transmission line conductor sag,” IEEE Trans. Power Del., vol.17, no. 4 pp 1142 – 1152, Oct. 2002.
9. Wernich de Villiers, and Arthur Burger, “Real-time sag monitoring system for high voltage transmission lines based on power-line carrier signal behavious” IEEE Trans. On power del., Vol.23, NO.1, January 2008.
10. Xignlong Zhu, and Jiping Shou, “An Autonomous Obstacles Negotiating Inspection Robot for Extra-High Voltage Power Transmission lines”.
11. Graham Hall “maxwell’s electromagnetic theory and special relativity” Phil. Trans. R. Soc. A 2008, published 28 May 2008.
12. Y.H Gu, and S Berlinjn, “Practical applications of automatic image analysis for overhead lines” 22nd Int. Conf. on Electricity distribution, Stockholm, Norway 10-13 June 2013.
13. A Martin and S Tosunoglu, “image processing technique for machine vision” univ. of florida.
14. MJ Tunstal et al., “State of the art of conductor galloping, 2002”
15. T.S Hlalele & S Du “Application of a Radio Frequency Identification Technology on High voltage Transmission Line for conductor sag measurement” ICEET2013 Conf. Proceedings, 22-23 July 2013.
16. IEEE Std 1159-2009 IEEE Recommended Practice for Monitoring Electric Power Quality
17. DA Douglass & Ridley Trash “Sag and Tension of conductor” 2013

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56.

Authors: **Biswajit Ghosh**

Paper Title: **Investigating the Rate of a Chemical Reaction by Sensing Mechanism**

Abstract: The paper investigates the rate of a chemical reaction by sensing mechanism i.e, use of a chemical sensor. The sensing element is a fiber. A chemical solution is taken. A portion of the fiber (uncladded region) is dipped in the solution for sensing the progress of the reaction. The rate of a chemical reaction can be calculated by measuring the speed at which products are formed. This can be estimated by the absorbance of lightwave as the

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reaction speeds up. From the curve of absorbance rate against time we can calculate the reaction rate by finding the slope.

Keywords: sensor technology; chemical concentration; multimode fiber; slope of the curve.

References:

1. Keiser Gerd, "Optical Fiber Communications",Mc Graw Hill International Editions, 2000.
2. Hocker G.B.," Fiber-optic sensing of pressure and temperature",Applied Optics, Vol. 18, Issue9,pp.1445-1448 (1979).
3. Yao.S.K,Asawa.C.K., "Fibre optical intensity sensors",IEEE J.Selected Areas in Communication,SAC-1/3,pp-562-573,1983.
4. Pal Bishnu P., "Fundamentals of Fibre Optics inTele-communication & Sensor Systems", New Age Int. Limited,Delhi,2001.
5. Ghatak.Ajoy, Thyagarajan.K,,"Introduction to Fibre Optics",Cambridge University Press,
6. Senior.John M., "Optical Fibre Communications", Prentice Hall of India Private Ltd, 2nd Edition, 2004.
7. Culshaw. Brian,Kersey.Alan, "Fiber-Optic Sensing: A Historical Perspective", Invited Paper, Journal of Lightwave Technology, Vol. 26, No. 9, May 1, 2008.
8. Beck, W.J. ,Urbanczyk, W.; Barwicz, Andrzej, "Performance analysis of fiber-optic transducer for measuring low pressures", Instrumentation and measurement Technology Conference,1995,IMTC/95,Proceedings,Integrating Intelligent Instrumentation and Control,IEEE,24-26 ,April 1995.
9. Wendeker, Kaminsk.M ," Development of a fiber-optic sensor for the measurement of dynamic cylinder pressure in spark ignition engine"Sensors, 2005 IEEE ,Dept. of Internal Combustion Engines, Lublin Tech. Univ. ,Oct. 30 2005-Nov. 3 ,2005.
10. Yang, Cui-rong , Hangzhou Dianzi Univ.,Hangzhou Pang, Quan; Fan, Ying-le; Xu,Ping ,"Fibre-optic Chemical Sensor Based on Characteristic Spectrum Recognition and its Application", Control and Automation, 2007. ICCA 2007. IEEE International Conference, May 30 2007,June 1 2007,Page(s):802-805.
11. Klainer, Stanley M., "The Use of Fiber Optic Chemical Sensors for Monitoring Specific Parameters and Species in Aqueous Systems", OCEANS '86,23-25,Sept.1986,Page(s): 828-833.
12. Ming Max,Liu Kang, "Principles and Applications of Optical Communications",TMH.
13. R.W. Cattrall, " Chemical Sensors", Oxford Univ.Press, Oxford, 1997.
14. J. Janata,"Principles of Chemical Sensors", Kluwer Academic Publishing Plenum, Dordrecht, 1989.
15. Mark A.Arnold, " Fiber optic chemical sensors",Anal Chem, Nov.1992,64(21),pp1015A-1025A.

57.

Authors: **A. Faize, A. Driouach, A. Kaabal, G. A. Alsharahi, A. M. Qasem**

Paper Title: **MOM Application for Calculating the RCS Dielectrics and Arbitrary Two- Dimensional Geometric Shape Formulation of Integral Equations Cylindrical Dielectric**

Abstract: This work focuses on the study of the dispersion of electromagnetic waves caused by two-dimensional structures: it is to develop a numerical code called TMHD, which is based on the method of moments (MoM), to calculate the Radar Cross Section (RCS or SER) of arbitrary two-dimensional geometry structures. Examples: homogeneous dielectric cylinder circular and square.

Keywords: MoM method, RCS dielectrics, cylindrical dielectric.

References:

1. Walton C. Gibson, “The Method of Moments in Electromagnetics”, International Standard Book Number‑13: 978‑1‑4200‑6145‑1 (Hardcover). 2008
2. M. Mallon, ‘Investigation of the Finite Difference Method of Solving Electromagnetics Problems’. Octobre 17, 2011.
3. R. Hiptmair, ‘Finite Elements in computational electromagnetism’, Universit• at T• ubingen D-72076 T• ubingen, Germany. 2002.
4. D.W. Hess, ‘INTRODUCTION TO RCS MEASUREMENTS’, Suwanee, GA 30024, U.S.A.
5. V.G. Borkar, A. Ghosh, R.K. Singh, and N. Chourasia, ‘Radar Cross section Measurement Techniques’. Defence Science Journal, Vol. 60, No. 2, March 2010, pp. 204-212.
6. Robert M. O’Donnell, ‘Radar Systems Engineering Lecture 7 –Part 1 Radar Cross Section’. IEEE New Hampshire Section. 2010
7. Eugene F. Knott, John Shaeffer, Michael Tuley, ‘Radar Cross section, second edition’. Scitech Radar and Defense. Octobre 1, 2004.
8. A. Balanis, ‘Antenna Theory Analysis and design’, Third Edition. John Wiley & Sons, Inc., Hoboken, New Jersey. 2005

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58.

Authors: **Asawari Dudwadkar, Akhil Gore, Tushar Nachnani, Harshil Sabhnani**

Paper Title: **Near Field Communication in Mobile Phones**

Abstract: The electronics and telecommunications industry has experienced rapid advances over the past decade. This has led to a new paradigm in the field of data transfer and wireless communication. This brings us to the current revolution the mobile industry faces in the form of NFC technology. Near Field Communication technology (NFC) is a standard for very short range communication up to a few centimetres. It finds various applications ranging from data transfer, secure identification, payments, marketing, healthcare, aviation, hospitality. NFC works at a very short range, mostly by touching the devices that employ NFC. This makes NFC a very easy and viable technology to use. This paper explains the theories behind NFC and then presents a number of compelling applications of NFC for mobile phones, while analysing the associated security threats.

Keywords: Smartphone, NFC, NFC tags, NFC reader

References:

1. André Filipe de AzevedoFigueiredo Cruz, “NFC And Mobile Payments Today”, Universidade De LisboaFaculdade De CiênciasDepartamento De Informática. [2]. Anokwa Y et al, “A user interaction model for NFC enabled applications”, Pervasive computing and communications workshop, IEEE
2. Basil Rajeev, “Near field magnetic communication”, Antennas and Propagation Magazine, IEEE, vol 46
3. ECMA, “Near field communication white paper”; “http://www.ecma-international.org/activities/Communications/tc32-tg19-2005-012.pdf”
4. Google Android developer forum. “NFC basics”; “http://developer.android.com/guide/topics/connectivity/nfc/nfc.html#tag-dispatch”
5. Hussein Ahmad Al-Ofeishat et al, “Near field communication (NFC)”, IJCSNS International Journal of Computer Science and Network Security, VOL.12 No.2, February 2012
6. Infosec institute resources, “Near Field Communication (NFC) Technology, Vulnerabilities and Principal Attack Schema”; “http://resources.infosecinstitute.com/near-field-communication-nfc-technology-vulnerabilities-and-principal-attack-schema/”
7. Infosys, SETLabs Briefings; “http://www.infosys.com/infosys-labs/publications/Documents/winning-it.pdf#page=69”
8. Nasution, S.M et al, “Prototype of Train ticketing application using NFC on Android device”, System Engineering and Technology

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International Conference
9. Nokia. Nokia Developer. “NFC usage and working principles” ;“http://developer.nokia.com/Community/Wiki/Inside_NFC:_Usages_and_Working_Principles”
10. Nokia. Nokia Developer. “Understanding NFC Data Exchange Format (NDEF) messages”;“http://developer.nokia.com/Community/Wiki/Understanding_NFC_Data_Exchange_Format_(NDEF)_messages”
11. Want R, “Near field communication”, Pervasive Computing, IEEE, vol 10.

59.

Authors: **M.N. Akhtar, J.N. AKhtar, O.Hattamleh**

Paper Title: **The Study of Fibre Reinforced Fly Ash Lime Stone Dust Bricks With Glass Powder**

Abstract: In the present study, fly ash was used as a raw material for replacing clay for making Fly ash reinforced bricks. The effect of fly ash with high replacement, and different properties of bricks combination were studied. It was found that the compressive strength of Plain Fly Ash and Treated Fly Ash Bricks (FAB, FALB) increases linearly and maximum with 5% coarse sand and 15% sand combination at 10% cement. This increase of compressive strength continues with the addition of 0.25% Plastic fibre in FAB and FALB. However, in the combination of Fly ash Lime stone dust glass powder Brick (FALSDGPB) with and without Plastic fibre the strength achieved to be maximum at 25% stone dust and 25% sand replacement. At the most, the combination of Fibre reinforced Fly ash Lime stone Dust glass powder Brick (25FRFALSDGPB) found to be highest compressive strength with 25% stone dust and sand combination at 10% cement. The strength achieved was nearly close to Indian First class Brick.

Keywords: Brick, compressive strength, Fly ash, Lime.

References:

1. M. Ghrici, S. Kenai and M. Said-Mansour Mechanical properties and durability of mortar and concrete containing natural pozzolana and limestone blended cements Cement & Concrete Composites 29 (2007) 542–549.
2. Xu Lingling, Guo Wei, Wang Tao and Yang Nanru Study on fired bricks with replacing clay by fly ash in high volume ratio Construction and Building Materials 19 (2005) 243–247.
3. N. Degirmenci and B. Baradan Chemical resistance of pozzolanic plaster for earthen walls Construction and Building Materials 19 (2005) 536–542.
4. Mustafa S ahmaran, Heru Ari Christianto and Ismail O¨ zgu¨ r Yaman Cement & Concrete Composites 28 (2006) 432–440.
5. Kae Long Lin Feasibility study of using brick made from municipal solid waste incinerator fly ash slag Journal of Hazardous Materials B137 (2006) 1810–1816.
6. I.S. 3812, Specification for Fly ash as pozallana and admixture (First Revision) 1983.
7. I.S. 8112-43 Grade ordinary Portland cement specification (First Revision) 1989.
8. ASTM C-618-92a “Standard Specification for Fly ash and Raw or Calcined Natural Pozzalan for use as Mineral Admixture” in Portland Cement Concrete American Society for testing and Material, Annual Book of ASTM Standards, Volume 04.02, Pensy & Vania, 1994.
9. Mroueh, U. M. and Wahlström, M., “By-products and recycled materials in earth construction in Finland—an assessment of applicability,” Resources, Conservation and Recycling, No. 35, 2002, pp. 117–129
10. Demir I (2009). Reuse of Waste Glass in Building Brick Production.Waste Manage. Res., 27: 572-577.
11. Chidiac SE, Federico LM (2007). Effects of Waste Glass Additions on the Properties and Durability of Fired Clay Brick. Canadian J. Civil Eng., 34: 1458-1466.
12. Kalwa M, Grylicki M (1983). Utilization of Fly Ash, a Waste from Thermal Power Stations, in Manufacture of Building Materials. Materials Science Monographs: pp. 107-109.
13. Kavas T (2006). Use of Boron Waste as a Fluxing Agent in Production of Red Mud Brick. Building and Environment. 41: 1779-1783.
14. Kumar S (2002). A Perspective Study on Fly Ash–Lime–Gypsum Bricks and Hollow Blocks for Low Cost Housing Development. Construction and Building Materials. 16: 519-525.
15. Kumar S (2003). Fly Ash–Lime Phosphogypsum Hollow Blocks for Walls and Partitions. Building and Environment. 38: 291-295.
16. Loryuenyong V, Panyachai T, Kaewsimork K, Siritai C (2009). Effects of Recycled Glass Substitution on the Physical and Mechanical Properties of Clay Bricks. Waste Management. 29: 2717-2721.
17. Malhotra SK, Dave NG (1992). Development of Lime Slag Mixture. In:Proceedings of the National Conference on Cement and Building Materials from Industrial Wastes, Hyderabad, India, pp 94-101.
18. Rahman MA (1988). Effect of Rice Husk Ash on the Properties of Bricks Made from Fired Lateritic Soil-Clay Mix. Materials and Structures, 21:222-227.
19. Rahman MA (1987). Properties of Clay-Sand-Rice Husk Ash Mixed Bricks. International Journal of Cement Composites and Light weight Concrete, 9: 105-108.
20. Park SB, Lee BC, Kim JH (2004). Studies on Mechanical Properties of Concrete Containing Waste Glass Aggregate. Cement and Concrete Research, 34: 2181-2189.
21. Pappu A, Saxena M, Asolekar SR (2007). Solid Wastes Generation in India and their Recycling Potential in Building Materials. Building and Environment, 42: 2311-2320.
22. Nasly MA, Yassin AAM (2009). Sustainable Housing Using an Innovative Interlocking Block Building System. In: Proceedings of the Fifth National Conference on Civil Engineering (AWAM ’09): Towards Sustainable Development, Kuala Lumpur, Malaysia, pp. 130-138.
23. Mun KJ, Hyoung WK, Lee CW, Soh YS (2007). Basic Properties of Non-Sintering Cement Using Phosphogypsum and Waste Lime as Activator. Construction and Building Materials, 21: 1342-1350.
24. Dondi M, Guarini G, Raimondo M, Zanelli C (2009). Recycling of PC and TV Glass in Clay Bricks and Roof Tiles. Waste Manage., 29:1945-1951.
25. Demir I, Baspinar MS, Orhan M (2005). Utilization of Kraft Pulp Production Residues in Clay Brick Production. Build. Environ., 40:1533-1537.
26. Cicek T, Tanriverdi M (2007). Lime Based Steam Autoclaved Fly Ash Bricks. Constr. Build. Mater., 21: 1295-1300.

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60.

Authors: **S.K. Bisoi, G. Devi**

Paper Title: **Multi-Input Multi-Pseudo Floating Gates Used In Circuits**

Abstract: Multi Pseudo floating gates with multi-inputs are used in circuits. The main operation of pseudofloating gates is bidirectional property by control gates.

Keywords: The main operation of pseudofloating gates is bidirectional

References:

1. G. Devi, et.al, “Analog multi input floating gate inverter with pseudoneuromos”, IJACSA, 3(5), May 2012.
2. O. Mirmotahari, Y. Berg, “A novel multiple input multiple valued semifloating gate latch”, IEEE May 2003 (ISMVL) 227-231.
3. O. Mirmotahari, et. al., “Pseudo floating gate and reverse signal flow”, Recent Advances in Technologies book published Nov. 1 (2009).

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4. K.C. Smith, “Multiple-valued logic: a tutorial and appreciation, IEEE Computer, 21: 17-27, April 1988.
5. Thoidis, D. Soudris, et.al., “The circuit design of multiple-valued logic voltage-mode adders. In International symposium on circuits and systems (ISCAS), 4:162-165, IEEE, May 2001.
6. O. Rouse diet Buisson, G. Moring, F. Paillardet and E. Mazaleyrat, “A new characterization method for accurate capacitor matching measurements using pseudo-floating gate test structures in submicron CMOS and BICMOS technologies. In International conference on microelectronic Test Structures (ICMTS), 223-227, 1998.

61.

Authors: **M Madhavi, M V R Srivatsava**

Paper Title: **Fraud Detection in Banking**

Abstract: as a customer we may face the potential target for fraudulent activities. In the present scenario the customer is the prime victim of all the fraudulent activities that drag him to a great lose. Due to unpredictable nature of mankind, would eventually lead to manipulation of any transactions or they may lead to theft of details. This survey paper deals with the different types of techniques that help to find the fraudulent activities in the banking sector.

Keywords: Electronic fraud, Identity theft, Credit/Debit card fraud, Data mining techniques

References:

1. In the context of this paper “Fraud Detection in Banking Using Data Mining – Neural Networks” the references include
2. Ogwueleka, F. N. (2008). Credit card fraud detection using data mining techniques. Ph.D. Dissertation. Department of Computer Science. Nnamdi Azikiwe University, Awka, Nigeria.
3. Data Mining: Concepts and Techniques Jiawei Han and Micheline Kamber. (References)
4. Fawcett, T; and Provost, F. (1997). Adaptive fraud detection. Data Mining and Knowledge Discovery, 1(3).
5. Types of frauds in banking sector at “http://www.anz.com/personal/ways-bank/security/online- security/threats-banking-safety/fraud-types/”

322-324

62.

Authors: **Sharad R.Mahajan**

Paper Title: **Goals and problems in Active Noise and Vibration Control**

Abstract: Noise and vibrations have over the last two decades been regarded as important environmental health problems. Regulations regarding acoustic as well as vibration levels have therefore become more strict. High levels of sound and vibration in different means for personal transportation are often regarded as a important environmental problem. The public alertness of health risks in conjunction with sound and vibration exposure has indirectly, become an important sales argument for manufacturers. Governments and health organizations are already regulating the time and level of sound and vibration that the human body is allowed to be exposed to. These regulations are becoming more and more strict, wherefore new methods for sound and vibration attenuation always are in demand. The new directives from the European Union (EU), from 2005, regarding heavy vehicles (loaders, trucks etc.) constitute an example. Such regulations state that it is not the manufacturer of the heavy vehicle but the employer who has to ensure that the maximum sound and vibration limits, both on a daily and weekly basis, are not exceeded.

Keywords: Active Noise.vibrations, Damping materials, traffic noise, surface pavement.

References:

1. Guide to Evaluation of Human Exposure to Vibration in Buildings. British Standards, BS6472, 1992.
2. Design Manual for Roads and Bridges, Volume 11, Environmental Assessment. Department of the Environment for Northern Ireland et al (August 1994, as amended up to August 2006).
3. Traffic Induced Vibrations in Buildings. Transport Research Laboratory, 1990.
4. Noise and Vibration Control of Combustion Engine Vehicles,by Mathias Winberg Ronneby, Doctoral Dissertation Series No. 2005:03,ISBN: 91-7295-062-5 ,Published 2005,Printed by Kaserntryckeriet AB,Karlskrona, Sweden
5. Presented by Guohua Sun University of Cincinnati engineering , Aug. 19-22 INTER-NOISE, the 41st International Congress and Exposition on Noise Control Engineering. paper title “Modified Filtered-x LMS Algorithm for Active Control of Vehicle Road Impact Noise,” and co-authors are Mingfeng Li, research associate in UC´s College of Engineering and Applied Science (CEAS), and Teik C. Lim, Herman Schneider professor of mechanical engineering.
6. Automotive Noise Control: Thirty Years of Changing Perspectives, Jim Thompson, National Institute for Occupational Safety and Health
7. Jun Lu, Passenger Car Interior Noise Reduction by Laminated Side Glass, Proceedings of Inter-Noise 2002, Institute of Noise Control Engineering.
8. O. Tokhi, S. Veres, “Active Sound and Vibration Control - Theory and Applications”,IEE Control Engineering, serier 62, 2002.
9. Myer Kutz, Handbook of Transportation Engineering, McGraw-Hill (2004) ISBN 978-0-07-139122-1

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63.

Authors: **Sagar V. Wankhede, Samir L. Shinde, Amit R. Wasnik**

Paper Title: **Modelling of Cu-Al2O3 Metal Matrix Composite Prepared By Powder Metallurgy Route**

Abstract: In recent development of Copper-Alumina metal matrix composites, the applications which need the materials with high thermal and electrical conductivity are attracting researchers interest. Copper matrix was reinforced with Al2O3 particles with varying amounts of Al2O3 by weight were prepared by powder metallurgy (PM) route having size less than 10µm. Copper powder which is electrolytic and atomized of size 45µm are used to fabricate the MMC’s. The powder is blended and compacted at optimized load of 350, 400 & 450MPa to produce green compacts of h|/d ratio in the range 1.1 to 1.5 and sintered in hydrogen reducing atmosphere at temperature of 8000C for 1 hour. and then furnace cooled to room temperature. Wear behaviour of the composite will investigated on a pin-on-disc machine to find out effects of hardness on the composites which prepared by varying the amount of alumina in copper matrix and compare it with the previous work on the composites.

Keywords: Al_2O_3 MMC’s, 350, 400 & 450MPa

References:

1. A. Bakkar and V. Neubert of Department of Metallurgy and Materials Engineering, Suez Canal University, P.O. Box 43721, Suez,

330-332

Egypt during their research work in 2006
2. Subrata Ray, Department of mechanical engineering, IIT, Roorkee , in his paper "MMC-New horizon for metallic materials"
3. T. Sasakia, T. Mizoguchib, "HRTEM and EELS characterization of atomic and electronic structures in Cu/a-Al2O3 interfaces", Applied Surface Science, 241(2005)
4. Laijun Li , Qinling Bi, "Fabrication of bulk Al2O3 dispersed ultrafine-grained Cu matrix composite by self-propagating high-temperature synthesis casting route",Material Letters 62(2008)
5. R. Melcher, S. Martins, "Fabrication of Al2O3-based composites by indirect 3D-printing", Materials Letters 60(2006)
6. Seung J. Hwang , Jin-hyung Lee, "Mechanochemical synthesis of Cu– Al2O3 nano composites", Materials Science and Engineering A 405 (2005)
7. J.A. Yeomans, "Ductile particle ceramic matrix composites—Scientific curiosities or engineering materials?", Journal of the European Ceramic Society 28 (2008)

64.

Authors: **Maryam Valinejad, Sekineh Vaseghi, Mehran Afzali**

Paper Title: **Starter Nitrogen Fertilizer Impact on Soybean Yield and Quality**

333-337

Abstract: Though there have been numerous studies on the effect of nitrogen(N) fertilization on soybean [Glycine max (L.) Merr.], relatively few have investigated early season N application in the environment of the northern of Iran. The objective of this research was to investigate the impact of starter N fertilization on soybean yield and quality. To achieve this objective a field experiment was established, using a split-plot design with three replications. Whole plots were tillage [no-tillage (NT) and conventional tillage (CT)] with starter fertilizer rate as the split plot treatments. Nitrogen was band applied at planting as urea (UR), at rates to supply 0, 16, 32 and 64 kg N /ha.As a result yields were greater for the CT than NT, possibly due to more favorable environmental conditions. Analysis of the experiment showed an average yield increase of 16.4% and 12.2% for the 32 kg N ha rate, compared to the no N treatment in CT and N , with no difference in grain N or oil concentration. This research demonstrates that applying N as starter has the potential to increase soybean yield but this may or may not translate into improved grain quality in the unique environments of the northern of Iran.

Keywords: Soybean-Nitrogen-Starter-Yield

References:

1. Addiscott ,T.M. and Dexter, A.R.1994.Tillage and crop residue management effects on losses of chemicals from soils. Soil & Till Res.,30:125-168.
2. Buhler ,D.D. and Opplinger, E.S.1990.Influence of tillage system on annual weed densities and control in soil- seeded soybean(Glycin max).Weed Sci.28:46-50.
3. Brevedan, R.E., D.B. Egli, and J.E. Leggett. 1987. Influence of N nutrition on flower and pod abortion and yield of soybeans. Agron.J. 70:81–84.
4. Bergersen, F.J. 1985. The bacterial component of soybean root nodules;changes in respiratory activity, cell dry weight and nucleic acid content with increasing nodule age. J. Gen. Microbiol. 19:312–323.
5. A. Bly, H.J. Woodard, and D. Winther, Nitrogen application timing and rate effects on soybean grain parameters at Aurora SD (Soil/Water Research Progress Report, SOIL PR 97-35. Plant Sci. Dep. Agric. Exp. Stn., South Dakota State Univ., Brookings, 1998)
6. Edwards ,J.H, and Tharlow,D.L.1992.Tillage and crop hapludalt. Southern region No tillage conference, pp.40-44.
7. Ham, G.E., I.E. Liener, S.D. Evans, R.D. Frazier, and W.W. Nelson.1975. Yield and composition of soybean seed as affected by N and S fertilization. Agron. J. 67:293–297.
8. Haq, M.U., and A.P. Mallarino. 2000. Soybean yield and nutrient composition as affected by early season foliar fertilization. Agron. J.92:16–24.
9. Flannery, R.L. 1986. Plant food uptake in a maximum yield soybean study. Better Crops 70:6–7.
10. R.W.F. Hardy, R.C. Burns, R.R. Hebert, R.D. Holsten, and E.K. Jackson. Biological nitrogen fixation: A key to world protein (p. 561–590. In T.A. Iie and E.G. Mulder (ed.) Biological nitrogen fixation in natural and agricultural habitats. Plant Soil Spec. 1971)
11. Horne, D.J., and Ross, C.W.1992.Ten years of maize- oats rotation under three tillage system on a silt loam in new zealand. Soil & Till Res ,22:131-143.
12. M.A. Kaziei, Effect of long-term tillage and crop rotation on yield and soil carbon (Research associate department of agronomy, 2003)
13. N.Martinus, The Hague, the Netherlands.Lachat Instruments (Quickchem method 12-107-04-1-B. Lachat Instr., Milwaukee, WI,1989)
14. Pikul, J.L., Jr., L. Carpenter-Boggs, M. Vigil, T.E. Schumacher, M.J.Lindstrom, and W.E. Riedell. 2001. Crop yield and soil conditions under ridge and chisel-plow tillage in the northern Corn Belt, USA. Soil Tillage Res. 60:21–33.
15. W.E.Riedell, T.E. Schumacher, and J.L. Pikul, Soybean row spacing and nitrogen fertilizer effects on yield and potential nitrate leaching (Soil/Water Research, 1997 Progress Report SOIL PR 97-38. Plant Sci. Dep. Agric. Exp. Stn., South Dakota StateUniv., Brookings)
16. Schmitt, M.A., J.A. Lamb, G.W. Randall, J.H. Orf, and G.W. Rehm. 2001. In-season fertilizer nitrogen applications for soybean in Minnestoa. Agron. J. 93:983–988.
17. Scharf, P.C., and W.J. Wiebold. 2003. Soybean yield responds minimally to nitrogen applications in Missouri. Available at ww.plantmanagementnetwork.org/cm/.Crop Manage. doi:10.1094/CM-2003-1117-01-RS.
18. Starling, M.E., C.W. Wood, and D.B. Weaver. 2000. Late-planted soybeans respond to nitrogen starter. Fluid J. 28:26–30.
19. Sorensen, R.C., and E.J. Penas. 1978. Nitrogen fertilization ofsoybeans. Agron. J. 70:213–216.
20. U. Rajji, and G.Donald, Growth analysis soybean under no tillage and conventional tillage systems (University of Illinois, 2003)
21. Sij, J.W., F.T. Turner, and J.P. Craigmiles. 1979. "Starter nitrogen"fertilization in soybean culture. Commun. Soil Sci. Plant Anal.10:1451–1457.
22. M.W. Sookle, and W.T.F Garretand, Main effect of planting date on group no tillage soybean (Mississippi state university, 2004)
23. Terman, G.L. 1977. Yields and nutrient accumulation by determinate soybeans, as affected by applied nutrients. Agron. J. 69:234–238.
24. Vyn, T.L., and Swanton,C.J.1998. Residue management and minimum tillage systems for soybean following wheat. Agron.J.,90: 131-137.
25. Weber, C.R. 1966. Nodulating and nonnodulating soybean isolines: II.Response to applied nitrogen and modified soil conditions. Agron.J. 58:46–49.
26. Wesley, T.L., R.E. Lamond, V.L. Martin, and S.R. Duncan. 1998.Effects of late-season nitrogen fertilizer on irrigated soybean yield and composition. J. Prod. Agric. 11:331–336.
27. Wesley, T.L., R.E. Lamond, V.L. Martin, and S.R. Duncan. 1999.Applied N at R3 stage bumps soybean yields. Fluid J. 25:16–19.
28. H.J.Woodard, A. Bly, and D. Winther, The effect of N applications on agronomic parameters and soybean nodulation (Soil/Water Res. Progress Report, 1998)M Ozaki, Y. Adachi, Y. Iwahori, and N. Ishii, Application of fuzzy theory to writer recognition of Chinese characters, IOSR Journal of Engineering, 2(2), 2012, 112-116.

65.

Authors: **Amirhosein Fathinavid, Maryam Ansari, Elahe Ahmadpour Samani**

Paper Title: **A Novel Code Assignment Scheme based on Learning Automata for Clustered Wireless Mobile Ad-hoc Networks**

338-346

Abstract: In this paper, we have designed a code assignment algorithm for ad-hoc networks based on CDMA scheme. In this method, inter -cluster interference free communications have been organized. To do this assignment, proposed algorithm which we name CDMLA, uses learning automata concept. The proposed algorithm allocates interference free code to each cluster head with concept of code spatial reuse. This algorithm is performed based on clustering and a learning automaton is assigned to each cluster head. The learning automata residing in each cluster head allocates a code to its cluster head. We have implemented the system in network simulator GloMoSim. Also, we have rigorously evaluated the performance of our proposed solution by performing a variety of experiments through the extensive simulation experiments. The performance of proposed algorithm is measured, and the results are compared with CS-DCA, LACAA and Hybrid-DCA protocols in terms of the number of used codes, code spatial reuse, blocking rate, waiting time for packet transmission and throughput. Simulation results show that the proposed method outperforms the existing methods in terms of almost metrics of interest under the same conditions.

Keywords: CDMA, Code assignment Algorithms, Mobile ad-hoc networks, GloMoSim.

References:

1. RM. Karp, Reducibility among Combinatorial Problems. Complexity of Computer Computations. USA: Plenum Press; 1972. pp. 85-103.
2. STC. Hou and TJ. Tsai, On the Cluster Based Dynamic Channel Assignment for Multi hop Ad hoc Networks. Journal of Communications and Networks, 2002, 4 (1):40-7.
3. C-M. Wu, Hybrid Dynamic Channel Assignment in Clustered Wireless Multi hop CDMA/TDMA Ad-hoc Networks. Wireless Personal Communications 2007a; pp. 85-105.
4. Y. Akaiwa and H. Andoh, Channel Segregation Self-Organized Dynamic Channel Allocation Method: Application to TDMA/FDMA Microcellular System, IEEE Journal of Selected Areas in Communications, 1993, 11(6): 949-54.
5. CR. Richard Lin and M. Gerla, Adaptive Clustering for Mobile Wireless Networks, IEEE Journal of Selected Areas in Communications, 1997, 15(7).
6. M. Gerla and J. Tsai, Multi cluster, Mobile, Multimedia Radio Network, ACM/Baltzer Journal on Wireless Networks,1995; 1(3):255-65.
7. C-L. Yang and J-F. Chang, Dynamic Code Assignment in Hybrid MC-CDMA/TDMA Systems, European Transactions on Telecommunications, 2003, 14(1): 49-59.
8. Y. Furuya and Y. Akaiwa, Channel Segregation, a Distributed Adaptive Channel Allocation Scheme for Mobile Communication Systems, IEICE Transactions, 1991, E74:15, pp. 31-37.
9. X. Fang, C. Zhu and P. Fan, Greedy-Based Dynamic Channel Assignment Strategy for Cellular Mobile Networks, IEEE Communication Letters, 2000, 4(7): 2-157.
10. KS. Narendra and KS. Thathachar, Learning Automata: an Introduction. New York: Prentice-Hall, 1989.
11. S. Lakshmivarahan and MAL. Thathachar, Bounds on the Convergence Probabilities of Learning Automata, IEEE Transactions on Systems, Man, and Cybernetics, 1995, SMC-6:7, pp. 56-63.
12. P. Gupta and PR. Kumar, The Capacity of Wireless Networks, IEEE Transactions on Information Theory, 2000, 46(2), pp. 388-404.
13. R. Rajaraman, Topology Control and Routing in Ad hoc Networks: A Survey. SIGACT News, 2002, 33(2), pp. 60-73.
14. YZ. Chen and AL. Listman, Approximating Minimum Size Weakly Connected Dominating Sets for Clustering Mobile Ad hoc Networks, In: Proceedings of the Third ACM International Symposium on Mobile Ad hoc Networking and Computing (MobiHoc2002), 2002, pp. 57-64.
15. MAL. Thathachar and PS. Sastry, A Hierarchical System of Learning Automata that Can Learn the Globally Optimal Path, Information Science 1997, 42:7, pp. 43-66.
16. X. Zeng, R. Bagrodia, and M. Gerla, GloMoSim: a library for parallel simulation of large-scale wireless networks, in: PADS, 1998.
17. http://pcl.cs.ucla.edu/projects/domains/glomosim.html, 1 May 2006.
18. J. Akbari Torkestani and MR. Meybodi, An Efficient Cluster-Based CDMA/TDMA Scheme for Wireless Mobile Ad-hoc Networks: A Learning Automata Approach, Journal of Network and Computer Applications, 2011, pp. 477-490.
19. MAL. Thathachar and BR. Harita, Learning Automata with Changing Number of Actions, IEEE Transactions on Systems, Man, and Cybernetics, 1987, SMG17:10, pp. 95-100.
20. J. Akbari Torkestani and MR. Meybodi, Graph Coloring Problem Based on Learning Automata, In: Proceedings of the International Conference on Information Management and Engineering (ICIME2009), Malaysia, 2009a, pp. 71-87.
21. J. Akbari Torkestani J and MR. Meybodi, Approximating the Minimum Connected Dominating Set in Stochastic Graphs based on Learning Automata, In: Proceedings of the International Conference on Information Management and Engineering (ICIME 2009),Malaysia, 2009b, pp. 67-76.

66.

Authors:	**Mahmood T. Yassen, Jawad K. Ali, Ali J. Salim, Seevan F. Abdulkareem, Ali I. Hammoodi and Mohammed R. Hussan**
Paper Title:	**A Compact Fractal Based Printed Monopole Antenna for WiBro, WiMax and UWB Applications**

Abstract: In this paper a compact Koch fractal based printed monopole antenna has been introduced as a candidate for use in applications in which the WiBro, WiMax, ISM and UWB services are integrated. The monopole radiating element has a rectangular shape with two slots cut from each corner. In addition, the sides of the radiator, except that of the feed line direction, have been modified to be in the form of Koch fractal curve of third iteration. A small rectangular slot has been made in the ground plane beneath the feed line. The antenna has been fed with an offset 50 Ohm microstrip transmission line. Both the antenna and the feed line have been printed on an FR-4 substrate with a thickness of 1.59 mm and relative permittivity of 4.4. Modeling and performance evaluation of the proposed antenna have been carried out using a method of finite integration technique (FIT) based EM simulator, CST Microwave Studio. Simulation results show that the proposed antenna offers an impedance bandwidth, for return loss ≤ -10 dB in the range of 2.3 – 11.5 GHz. Furthermore, the proposed antenna radiating element has a compact size of 20×20 mm^2.

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Keywords: Compact fractal antenna, Microstrip transmission line, Printed monopole antenna, Wireless applications.

References:

1. Mishra, S. K., R. K. Gupta, A. Vaidya, and J. Mukherjee, "A compact dual-band fork-shaped monopole antenna for Bluetooth and UWB applications," IEEE Antennas and Wireless Propag. Lett., Vol. 10, pp. 627-630, 2011.
2. Kohno, R., M. McLaughlin, and M. Welborn, "DS-UWB physical layer submission to 802.15 task group 3a," IEEE Document 802.15-04-0493r4, 2005.
3. Federal Communications Commission, "First order and report: Revision of part 15 of the Commission's rules regarding UWB transmission systems," April 22, 2002.

4. Ali, J. K, and A. S. A. Jalal. "A Miniaturized multiband Minkowski-like pre-fractal patch antenna for GPS and 3g IMT-2000 handsets." Asian J. Inform. Tech Vol. 6, No. 5, pp. 584-588, 2007.
5. Ali, J. K., and E. S. Ahmed. "A new fractal based printed slot antenna for dual band wireless communication applications." Proceedings of Progress In Electromagnetics Research Symposium, KL, Malaysia, March 27-30. 2012.
6. Ali, J. K. "A new microstrip-fed printed slot antenna based on Moore space-filling geometry." Proceedings of Loughborough Ant. & Propag. Conf., LAPC, pp. 449-452., U.K., 2009.
7. Krupenin, S. V., "Modeling of fractal antennas," Journal of Communications Technology and Electronics, Vol. 51, No. 5, pp. 526-533, May 2006.
8. Evans, J. A. and M. J. Ammann, "Planar monopole design considerations based on TLM estimation of current density," Microwave Opt. Technol. Lett., Vol. 36, pp. 40-42, 2003.
9. Clerk, J., J. Liang, C. C. Chiau, X. Chen, and C. G. Parini, "Study of a printed circular disc monopole antenna for UWB systems," IEEE Trans. Antennas Propag., Vol. 53, pp. 3500-3504, 2005.
10. Gopikrishna, M., D. D. Krishna, A. R. Chandran, and C. K. Aanandan, "Square monopole antenna for ultra wide band communication applications," Journal of Electromagnetic Waves and Applications, Vol. 21, No. 11, pp. 1525-1537, 2007.
11. Ching, W. L., W. H. Lo, R. H. Yan, and S. J. Chung, "Planar binomial curved monopole antennas for UWB communication," IEEE Trans. Antennas Propag., Vol. 55, pp. 2622-2624, 2007.
12. Yin, X.-C., C.-L. Ruan, C.-Y. Ding, and J.-H. Chu, "A planar U type monopole antenna for UWB applications," Progress In Electromagnetics Research Letters, Vol. 2, pp. 1-10, 2008.
13. Wu, Q., R. Jin, J. Geng, and M. Ding, "Printed omni-directional UWB monopole antenna with very compact size," IEEE Trans. Antennas Propag., Vol. 56, pp. 896-899, 2008.
14. Yuan, T., C.W. Qiu, L.W. Li, M.S. Leong, and Q. Zhang, "Elliptically shaped ultra-wideband patch antenna with band-notch features," Microw. Opt. Tech. Lett., Vol.50, pp. 736-738, 2008.
15. Chen, Y.-L., C.-L. Ruan, and L. Peng, "A novel ultra-wideband bow-tie slot antenna in wireless communication systems," Progress In Electromagnetics Research Letters, Vol. 1, pp. 101-108, 2008.
16. Gopikrishna, M., D. D. Krishna, C. K. Anandan, P. Mohanan, and K. Vasudevan, "Design of a compact semi-elliptic monopole slot antenna for UWB systems," IEEE Trans. Antennas Propag., Vol. 57, pp. 1834-1837, 2009.
17. Mishra, S. K., R. K. Gupta, and J. Mukherjee, "Effect of substrate material on radiation characteristics of an UWB antenna," Proceedings of Loughborough Ant. & Propag. Conf., LAPC, pp. 157-160, U.K., 2010.
18. Mishra, S. K., R. K. Gupta, and J. Mukherjee, "Parallel metal plated tuning fork shaped omnidirectional monopole antenna for UWB application," Microwave Opt. Technol. Lett., Vol. 53, No. 3, pp. 601-604, 2011.
19. Kim, J.-H., K.-C. Hwang and K. Hyeong-Seok. "Ultra-wideband folded monopole antenna for WiBro/WLAN/WiMAX/UWB wireless USB dongles." IEICE Transactions on Communications, Vol. E 95B, No. 9, pp. 2983-2986, 2012.
20. Li, W. T., Y. Q. Hei, W. Feng, and X. W. Shi. "Planar antenna for 3G/Bluetooth/WiMAX and UWB applications with dual band-notched characteristics." IEEE Antennas and Wireless Propagation Letters, Vol. 11, pp. 61-64, 2012.
21. Li, G., H. Zhai, T. Li, X. Y. Ma, and C.-H. Liang, "Design of a compact UWB antenna integrated with GSM/WCDMA/WLAN bands," Progress In Electromagnetics Research, Vol. 136, 409-419, 2013.
22. Ali, J. K., A. J. Salim, A. I. Hammoodi, and H. Alsaedi. "An ultra-wideband printed monopole antenna with a fractal based reduced ground plane." Proceedings of Progress In Electromagnetics Research Symposium, pp. 613-617, 2012.
23. Ali, J. K., M. T. Yassen, M. R. Hussan, and M. F. Hasan. "A new compact ultra wideband printed monopole antenna with reduced ground plane and band notch characterization." Proceedings of Progress In Electromagnetics Research Symposium, KL, Malaysia, March 27-30. 2012.

67.

Authors: **Ashvini Jadhav, Shriniwas Gadage**

Paper Title: **To Find Solution for Secure and Fast Data transfer: Improving Network Performance**

Abstract: The theory of network coding promises significant benefits in network performance, especially in lossy networks and in multicast and multipath scenarios. To realize these benefits in practice, we need to understand how coding across packets interacts with the acknowledgment (ACK)-based flow control mechanism that forms a central part of todays Internet protocols such as transmission control protocol (TCP). The mechanism for TCP/NC that incorporates network coding into TCP with only minor changes to the protocol stack, thereby allowing incremental deployment. how the source transmits linear combinations of packets currently in the congestion window. And new interpretation of ACKs the sink acknowledges every degree of freedom even if it does not reveal an original packet immediately. Thus, new TCP ACK rule takes into account the network coding operations in the lower layer and enables a TCP-compatible sliding-window approach to network coding. Coding essentially masks losses from the congestion control algorithm and allows TCP/NC to react smoothly to losses, resulting in a novel and effective approach for congestion control over lossy networks such as wireless networks

Keywords: AES, ACO, Butterfly Network, TCP/NC

References:

1. R. Ahlswede, N. Cai, S.-Y. R. Li, and R. W. Yeung, Network information flow,[IEEE Trans. Inf. Theory, vol. 46, no. 4, pp. 12041216, Jul. 2000.
2. R. Koetter and M. Medard, BAn algebraic approach to network coding,[IEEE/ACM Trans. Netw., vol. 11, no. 5, pp. 782795, Oct. 2003.
3. S.-Y. Li, R. Yeung, and N. Cai, BLinear network coding,[IEEE Trans. Inf. Theory, vol. 49, no. 2, pp. 371381,Feb. 2003.
4. T. Ho, M. Medard, R. Koetter, D. Karger, M. Effros, J. Shi, and B. Leong, BA random linear network coding approach to multicast,[IEEE Trans. Inf. Theory, vol. 52, no. 10, pp.44134430, Oct. 2006.
5. Y. Xi and E. M. Yeh, BDistributed algorithms for mini- mum cost multicast with networkcoding, in Proc. Allerton Annu. Conf. Commun. Control Comput, pp. 20732082,2005.
6. D. Lun, N. Ratnakar, R. Koetter, M. Medard, E. Ahmed, and H. Lee, B Achieving minimum-cost multicast: A de- centralized approach based on network coding,[in Proc. IEEE Int. Conf. Comput. Commun., Mar. 2005, vol. 3 [8] A. F. Dana, R. Gowaikar, R. Palanki, B. Hassibi, and M. Effros, Capacity of wireless erasure networks,[IEEE Trans. Inf. Theory, vol. 52, no. 3, Mar. 2006.
7. W. R. Stevens, TCP/IP Illustrated, Volume 1: The Proto- cols. Reading MA: Addison-Wesley, 1994.
8. D. S. Lun, B Efficient operation of coded packet networks,[Ph.D. dissertation, Dept. Electr. Eng. Comput. Sci., Mas- sachusetts Inst. Technol., Cambridge, MA, Jun. 2006.
9. G. R. Wright and W. R. Stevens, TCP/IP Illustrated, Volume 2: The Implementation. Reading, MA: Addison- Wesley, 1994.
10. S. Bhadra and S. Shakkottai, B Looking at large networks: Coding vs. Queuing, in Proc. IEEE Int. Conf. Comput. Commun, Apr. 2006, DOI: 10.1109/INFOCOM. 2006.
11. D. S. Lun and T. Ho, Network Coding: An Introduction.Cambridge, U.K.: Cambridge Univ. Press, 2008.
12. T. Ho, B Networking from a network coding perspective Ph.D. dissertation, Massachusetts Inst. Technol., Cambridge, MA, May 2004.
13. P. A. Chou, Y. Wu, and K. Jain, Practical network coding,[in Proc. Allerton Conf. Commun. Control Comput., pp. 4049, 2003.

352-357

14. Network coding: A historical perspective Yeung Proceedings of the IEEE — Vol. 99,No. 3, March 2011
15. Linear network coding: Theory and algorithms By Shuo- Yen Robert Li, Fellow IEEE, Qifu Tyler Sun, Member IEEE, and Ziyu Shao, Member IEEE Proceedings of the IEEE —Vol. 99,No. 3, March 2011
16. Network coding and matroid theory Dougherty Proceedings of the IEEE — Vol. 99,No. 3, March 2011
17. Theory and applications of network error correction coding Zhangs tutorial Proceedings of the IEEE — Vol. 99,No.3, March 2011
18. Theory of secure network coding Cai and Chans Proceedings of the IEEE — Vol. 99,No. 3, March 2011
19. Network coding meets TCP: Theory and implementation By Jay Kumar Sundararajan, Devavrat Shah, Muriel Medard, Fellow IEEE, Szymon Jakubczak, Michael Mitzenmacher, and Joao Barros Proceedings of the IEEE — Vol.99,No. 3, March 2011
20. Random network coding in peer-to peer networks: From theory to practice Finally, Li and Nius2011 Finally, Li and Nius Proceedings of the IEEE — Vol. 99,No. 3, March 2011

68.

Authors: **B.S.Patil, A.H.Karode, S.R.Suralkar**

Paper Title: **Image Steganography Based on Entropy Thresholding Scheme**

Abstract: In this paper, we present image steganography based on entropy thresholding scheme via digital images that contains redundant information can be used as covers or carrier to hide secrete message. After embedding a secrete message into the cover image so called stego image is obtained. We introduce a new forensic tool that can reliably detect distortion due to steganography and watermarking and modify those images that were originally stored in the JPEG format. Due to JPEG compression we get unique fingerprints and used as a “fragile watermark” enabling us to detect changes as small as modifying the LSB of one randomly chosen pixel. The detection of changes is based on investigating the compatibility of 8□8 blocks of pixels with JPEG compression with a given quantization matrix. The use of local criteria to choose where to hide data can potentially cause de-synchronization of the encoder and decoder. This synchronization problem is solved by the use of powerful, but simple-to-implement, erasures and errors correcting codes, which also provide robustness against a variety of attacks.

The proposed system is used to hides large volume of data in an image as well as it will limit the perceivable distortion that might occur in an image while processing it. This project has an advantage over other information security software because the hidden text is in the form of images, which are not obvious text information carriers. The main advantage of this project is a simple, powerful and user-friendly GUI that plays a very large role in the success of the application.

Keywords: Steganography, data hiding, jpeg, DCT

References:

1. Lee Yeuan-kuen et al. An Advanced Least-Significant-Bit Embedding Scheme for Steganographic Encoding [J]. 2009, Pg. No. 349-360
2. Omid Zanganeh, “Image Steganography Based on Adaptive Optimal Embedding”, Faculty of Computer Science and Information Systems University Technology Malaysia Johor, Malaysia.2009 Pg. No. 600-605
3. Suresh Mali & Pradip Patil, “Robust And Secured image adaptive Data Hiding”, Faculties from VIT COE Pune 2011.
4. Kevin Curran, Internet Technologies Research Group, “An Evaluation of Image Based Steganography Methods” University of Ulster Karen Bailey, Institute of Technology, Letterkenny, Ireland , International Journal of Digital Evidence Fall 2003, Volume 2, Issue 2.
5. MasoudNosrati Kermanshah, “An introduction to steganography methods” University of Kermanshah Medical Science, Kermanshah, Iran World Applied Programming, Vol. (1), No (3), August 2011. 191-195
6. N.Wu and M. Hwang. "Data Hiding: Current Status and Key Issues," International Journal of Network Security, Vol.4, No.1, pp. 1-9, Jan. 2007.
7. Marc Van Droogenbroeck And JérômeDelvaux, “An Entropy Based Technique For Information Embedding In Images” IEEE Benelux Signal Processing Symposium (SPS-2002), Leuven, Belgium, March 21–22, 2002 Pg. No. S02-81-84
8. W. Bender,W. Butera,D. Gruhl,R. Hwang,F. J. Paiz, Pogreb Applications, “for data hiding” IBM systems journal, vol. 39, nos. 3&4, 2000 Pg.no. 547-568
9. Neil F. Johnson & Stephen C. Katzenbeisser “A Survey Of Stegnographic Technique” Chapter no. 3 Pg. No. 43-78
10. Kaushal Solanki, Student Member, IEEE, “Robust Image-Adaptive Data Hiding Using Erasure and Error Correction” IEEE Transactions On Image Processing, Vol. 13, No. 12, December 2004 Pg. No. 1627- 1639.
11. Chin-Chen Chang, “High Capacity data hiding in JPEG-Compressed images”, Information, 2004, Vol. 15, No. 1, 127–142
12. Jessica Fridrich, MiroslavGoljan, Rui Du, “Steganalysis Based on JPEG Compatibility”, Centre for Intelligent Systems, Department of Electrical Engineering, SUNY Binghamton, Binghamton.
13. Prof. Akhil Khare, Meenu Kumari, Pallavi Khare, “Efficient Algorithm For Digital Image Steganography”, journal of information 2009 to 10 vol.1 ISSN 0975-6728
14. Marc Van Droogenbroeck And JérômeDelvaux, “An Entropy Based Technique For Information Embedding In Images”, Proc.3rd IEEE Benelux Signal Processing Symposium (SPS-2002), Leuven, Belgium, March 21–22, 2002
15. R.O.EI Safy, “An Adaptive Steganographic Technique Based on Integer Wavelet Transform”, Faculty of Engineering, Brenham University 2009. Pg. No. 111-117

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69.

Authors: **D.Phani Kumar, G.Rosline Nesakumari, S.Maruthu Perumal**

Paper Title: **Contrast Based Color Watermarking using Lagrange Polynomials Interpolation in Wavelet Domain**

Abstract: Vigorous watermarking with unconscious detection is necessary to realistic copyright protection of digital images. Digital watermarking includes a number of approaches that are used to undetectably communicate the information by embedding it into the original data. The proposed robust and blind color based watermarking scheme is embeds color watermarks in color images using Langrage Polynomial Interpolation (LPI) in wavelet domain. Successful development of uniqueness of proposed method helps to develop a watermarking scheme that fulfills the requirement. The proposed watermarking technique embeds only the watermark key in the diagonal part of the image. The watermark is a color logo and it not going to embed into the image. Only a tiny quantity of information is required to extract the watermark key. From the watermark key easily can retrieved original color watermark from the watermarked image. The watermark key was generated by using chaotic mapping technique. Experimental results show that the proposed watermarking scheme is computationally uncomplicated and fairly robust and good quality image

Keywords: chaotic mapping, wavelet, watermark key, Langrage Polynomial Interpolation (LPI)

362-367

References:

1. Aruna Mittal, Object Oriented Steganography using Skin Tone Detection and RSA Encryption Scheme, International Journal of Science and Research (IJSR), India Online ISSN: 2319-7064.
2. Ibrahim, R. and Kuan, T. S., Steganography Imaging (SIS): Hiding Secret Message inside an Image. Proceedings of the World Congress on Engineering and Computer Science, 2010, San Francisco, USA.
3. Karnpriya Vyas, Kirti Sethiya, Sonu Jain: Implementation of Digital Watermarking Using MATLAB Software, COMPUSOFT an International journal of advanced computer technology.
4. Pratibha Sharma, Shanti Swami: Digital Image Watermarking Using 3 level Discrete Wavelet Transform, Conference on Advances in Communication and Control Systems 2013 (CAC2S 2013)
5. G.RoslineNesakumari, Dr.V.Vijayakumar, Dr.B.V.Ramana Reddy : Generation of An Efficient Digital Watermark Key Based on Honey Comb Polynomial Interpolation Approach, International Journal of Computer Network and Information Security.
6. L. Robert, T. Shanmugapriya, A Study on Digital Watermarking Techniques, International Journal of Recent Trends in Engineering, 2009.
7. Shang-Lin Hsieh, I-Ju Tsai, Bin-Yuan Huang, and Jh-Jie Jian, Protecting Copyrights of Color Images using a Watermarking Scheme Based on Secret Sharing and Wavelet Transform, Journal of Multimedia, vol. 3, No. 4, 2008, pp. 42-49.
8. A.M. Fard, M. Akbarzadeh-T and F. Varasteh-A, “A New Genetic Algorithm Approach for Secure JPEG Steganography”, in: Proceedings of IEEE International Conference on Engineering of Intelligent Systems, 22-23 April 2006, pp. 1-6.
9. Er-Hsien Fu, Literature Survey on Digital Image Watermarking, EE381K Multidimensional Signal Processing, 1998.
10. G. Rosline Nesa Kumari, B. Vijaya Kumar, L.Sumalatha, and Dr V. V. Krishna, Secure and Robust Digital Watermarking on Grey Level Images, International Journal of Advanced Science and Technology, 2009.
11. Guanrong Chen, Yaobin Mao, Charles K. Chui, A symmetric image encryption scheme based on 3D chaotic cat maps, Science Direct, Chaos, Solutions and Fractals.
12. Chittaranjan Pradhan,, Shibani Rath, Ajay Kumar Bisoi, Non Blind Digital Watermarking Technique Using DWT and Cross Chaos, 2nd International Conference on Communication, Computing & Security [ICCCS-2012]
13. G. Rosline Nesakumari, S. Rajendran, Dr.V. Vijayakumar, ―Integrated Normalized Content System for Efficient Watermarking, International Journal of Computer Applications, Vol. 53-No.15 , Sept, 2012.
14. Baisa L. Gunjal, R.R. Manthalkar, An overview of transform domain robust digital image watermarking algorithms, Journal of Emerging Trends in Computing and Information Sciences, 2010.
15. Manjit Thapa Dr. Sandeep Kumar Sood Meenakshi Sharma , Digital Watermarking: Current Status and Key Issues, International journal of Advances in Computer Networks and its security.
16. Jiankun Hu , Fengling Han, ―A pixel-based scrambling scheme for digital medical images protection‖, Journal of Network and Computer Applications, Published by Elsevier Ltd.,2009.
17. Xiang-Yang Wang , Zi-Han Xu , Hong-Ying Yang, ―A robust image watermarking algorithm using SVR detection, Expert Systems with Applications, Published by Elsevier Ltd.,2009.
18. Musheer Ahmad, M. Shamsher Alam, A New Algorithm of Encryption and Decryption of Images Using Chaotic Mapping, /International Journal on Computer Science and Engineering, Vol.2(1), 2009
19. Zhao Yuxia, Fan Jingbo, A Double- function Digital Watermarking Algorithm Based on Chaotic System and LWT, 2012 International Conference on Medical Physics and Biomedical Engineering.

70.

Authors: **Pradnya A. Shirsath, Vijay Kumar Verma**

Paper Title: **Mining Frequent Pattern Form Large Dynamic Database with Time Granularities to Improve Efficiency**

Abstract: Incremental algorithms can manipulate the results of earlier mining to derive the final mining output in various businesses [1, 2, 3]. This study proposes a new algorithm, called the new approach for efficiently incrementally mining frequent pattern from large Dynamic database. Proposed approach is a backward method that only requires scanning incremental database. Rather than rescanning the original database for some new generated frequent itemsets in the incremental database, we add the occurrence counts of newly generated frequent itemsets and delete infrequent itemsets obviously. Thus, new proposed approach need not rescan the original database and to discover newly generated frequent itemsets. Proposed approach generates fewer candidates, reduces complex calculation and has good scalability as compared to the previous methods.

Keywords: Thus, new proposed approach need not rescan the original database and to discover newly generated frequent itemsets.

References:

1. J. Han, M. Kamber, “Data mining, Concepts and techniques”, Academic Press, pp 21-34, 2003.
2. David Hand, Heikki Mannila and Padhraic Smyth, “ Principles of Data Mining and Incremental Association Rule Mining Using Promising Frequent Itemset Algorithm”
3. Arun K. Pujari, “Data mining Techniques”, University Press (India) Private Limited, pp 2-6, 2006
4. D. Hand, H. Mannila, P. Smyth, “Principles of Data Mining”, Prentice Hall of India, pp 141-150, 2004
5. Pauray S.M. Tsai , Chih-Chong Lee , and Arbee L.P. Chen An “Efficient Approach for Incremental Association Rule Mining”, Department of Information Management, Ming Hsin Institute of Technology, Hsin-Feng, Hsinchu 304, Taiwan, R.O.C
6. William Cheung and Osmar R. Zaïane, “Incremental Mining of Frequent Patterns Without Candidate Generation or Support Constraint”, University of Alberta, Edmonton, Canada
7. Rahman, Mohammad.M AL-Widyan Philadelphia, “Reduce Scanning Time Incremental Algorithm (RSTIA) of Association rules”, Academic Research International2, September Volume 1, Issue 2, September 2011 University, Amman, JORDAN.
8. Wei-Guang Teng and Ming-Syan Chen, “ Incremental Mining on Association Rules”, Department of Electrical Engineering National Taiwan University Taipei, Taiwan, ROC.
9. Anour F.A. Dafa-Alla, Ho Sun Shon, “Incremental Mining of General Temporal Association Rules”, Journal of Information Processing Systems, Vol.6, No.2, June 2010.
10. Mohammed J. Zaki , Karam Gouda, “GenMax: An Efficient Algorithm for Mining Maximal Frequent Itemsets”.
11. Weiqiang Lin Mehmet A. Orgun, “An Overview of Temporal Data Mining”, The Australasian Data Mining Workshop
12. Wei Wang, Jiong Yang Richard Muntz, “ TAR: Temporal Association Rules on Evolving Numerical Attributes”, T.J. Watson Research Centers IBM
13. Keshri Verma O P Vyas, “Temporal Association Rule Using Without Candidate Generation”, 3rd International caliber - 2005, cochin, 2-4 february, 2005, © inflibnet centre, ahmedabad
14. Litvak Marina Temporal Mining Algorithms: Generalization and Performance Improvements The research work for this thesis has been carried out at Ben-Gurion University of the Negev under the supervision of Prof. Ehud Gudes November 2004
15. Yingjiu Li Peng Ning X. Sean Wang Sushil Jajodia, “Discovering Calendar-based Temporal Association Rules”, the work was partially supported by ARO under contract number DAAG-55-98-1-0302. Work of Wang was also partially supported by the NSF Career award 9875114.

368-372

16. Chelliah Balasubramanian, Karuppaswamy Duraiswamy, “A mining method for tracking changes in temporal association rules from an encoded database”, Chelliah Balasubramanian et al International Journal on Computer Science and Engineering Vol.1(1), 2009, 1-8
17. Mohsin Naqvi, Kashif Hussain, Sohail Asghar, Simon Fong, “Mining Temporal Association Rules with Incremental Standing for Segment Progressive Filter 1”, Center of Research in Data Engineering (CORDE), Mohammad Ali Jinnah University, Islamabad, Pakistan

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71.

Authors: **Ahmed Gamal Aly, Nevine Makram labib**

Paper Title: **Proposed Model of GIS - Based Cloud Computing Architecture for Emergency System**

Abstract: Recent emergency situations in the world display the inclination that the occurrence frequency of natural catastrophes is anticipated to increase in future. Thus new approaches for crisis administration need to be elaborated based on the newest IT expansion. Cloud computing is advised as possible way to smaller the cost and complexity of computing by supplying applications that run on the Internet. This paper discus proposed GIS-model based Cloud computing for emergency management. GIS application has been implemented for earthquakes prediction and earthquakes emergency management based Cloud computing platform (Microsoft Windows Azure). Performance of GIS application has been measured in different platform one of them based on Cloud technology and the other local host.

Keywords: cloud computing, emergency management, GIS, windows azure.

References:

1. Leonid V. Stoimenov, Member, IAENG, Aleksandar Lj. Milosavljević, and Aleksandar S. Stanimirović, "GIS as a Tool in Emergency Management Process", Proceedings of the World Congress on Engineering 2007 Vol I, London, UK. pp. 238-242.
2. Borko Furht , Armando Escalante, “Handbook of Cloud Computing”, Springer Science+Business Media, LLC 2010, pp.3-4.
3. Esri: http://www.esri.com/what-is-gis/overview#overview_panel
4. Suraj Pandey,” Cloud Computing Technology & GIS Applications”, The 8th Asian Symposium on Geographic Information Systems From Computer & Engineering View (ASGIS 2010), ChongQing, China, April 22-24, 2010.
5. Yang Xiaoqiang, Deng Yuejin, “Exploration of Cloud Computing Technologies for Geographic Information Services”, Sponsored by the project of National 863 plan, program number: 2007AA120501.
6. Asma BEN LETAIFA, Amel HAJI, Maha JEBALIA, Sami TABBANE, “State of the Art and Research Challenges of new services architecture technologies: Virtualization, SOA and Cloud Computing”, International Journal of Grid and Distributed Computing”, Vol. 3, No. 4, December 2010, pp. 69-88.
7. J. Lakshmi, Sathish S. Vadhiyar , “Cloud Computing: A Bird’s Eye View”, Cloud Computing-TR01 SERC, IISc., Bangalore, September 2011.
8. Muzafar Ahmad Bhat, Razeef Mohd Shah, Bashir Ahmad, Inayat Rasool Bhat, “Cloud Computing: A Solution to Information Support Systems (ISS)”, International Journal of Computer Applications (0975 – 8887) Volume 11, No.5, December 2010.
9. J. Noltes, “Data Location Compliance In Cloud Computing”, Master thesis, Document Number: EEMCS – 0089990, University of Twenty, August 2011.
10. Kai Hwang, Geoffrey Fox, and Jack Dongarra, “Cloud Architecture and Datacenter Design”, (57 pages) in Distributed Computing: Clusters, Grids and Clouds, Ch.7, May 2010.
11. NASCIO Cloud Computing Series: http:// www.nascio.org/
12. GIS Cloud Platform: http:// www.omnisdata.com /lang/en/news/gis-cloud-platform/
13. Ahmet İlhan AYŞAN, Hikmet YİĞİT, Güray YILMAZ, “GIS Applications in Cloud Computing Platform and Recent Advances”, IEEE, 2011.
14. Windows Azure: http://www.windowsazure.com/en-us/home/features/data-management/
15. Esri: http://resources.esri.com/help/9.3/arcgisserver/apis/javascript /arcgis/help/overview_api.htm

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72.

Authors: **Digambar Y. Yedage, Anand Bone**

Paper Title: **Efficient Software Architecture through Prototyping Approach**

Abstract: Most of the software industries are focusing on the saving cost in the area of the development and maintenance of the project. The focus is on analysis of JSP, Struts, Spring MVC and Hibernate frameworks for development of the application and the prototype. As per the customers requirement developers has to perform the development task within specified time. Once the software project requirements are clear from the customer, the requirement analysis phase is carried out before the start of the design. In the design phase, the developer is not aware of what are the technologies getting involved. Before starting of the actual development phase, customer wants to see the prototype of an application. This needs to be show cased as the prototype of the application. The prototype development is the predevelopment phase which is an important phase in the software development life cycle. The customer will approve the prototype and then actual development will start.This is the most efficient way of developing the software architecture.

Keywords: Prototype, Efficient software architecture, Software Architecture, JSP Custom tag and Hibernate.

References:

1. Efficient Access to Hibernate Through JSP Powered by a New Tag Library, Pubudu Gunawardena, 99X Research, 99X Technology, 2012
2. Transforming Embedded Java Code into Custom Tags, Shannon Xu and Thomas Dean, 2012
3. H. Bergsten. Java Server Pages. O’Reilly Media, 2003, pp. 1-28
4. JBoss Community. Relational Persistence for Java and .NET. [Online]. http://www.hibernate.org/
5. Pugh and J.D. Gradecki. Professional Hibernate. Wiley, 2004, pp. 15-22
6. C. Bauer and G. King. Java Persistence with Hibernate. Manning, 2009, pp. 4-10
7. B. Basham et al. “Script-free pages” in Head First Servlets and JSP. O’Reilly Media, 2004, pp. 341-348
8. A. Hasegawa et al., “BioTags: A JSP Tag Library for Bioinformatics Website Construction,” Genome Informatics, Japan, Rep. 553-554, 2002.
9. Serge Knystautas. Hibtags. [Online] http://hibtags.lokitech.com/index
10. B. Basham et al. “Custom tags are powerful” in Head First Servlets and JSP. O’Reilly Media, 2004, pp. 435
11. B. Basham et al. “When even JSTL is not enough” in Head First Servlets and JSP. O’Reilly Media, 2004, pp. 489-547
12. X. Guo, J.R. Cordy and T.Dean, “Unique Renaming of Java Using Source Transformation”, IEEE 3rd International Workshop on Source Code Analysis and Manipulation, Amsterdam, p151-160, September 2003.
13. F. Ricca, P. Tonella, and Ira D. Baxter, "Web Application Transformations based on Rewrite Rules", Information and Software Technology., vol. 44, n. 13, pp. 811-825, October 2002

380-383

14. N. Synytskyy, J.R. Cordy and T.R.Dean, “Resolution of Static Clones in Dynamic Web Pages”, Proc. WSE 2003, IEEE 5th International Workshop on Web Site Evolution, Amsterdam, p49-58, September 2003.
15. S. Xu and T. Dean, “Modernizing Java Server- Pages”, being submitted to WSE 2005

73.

Authors: **Anupama A Chavan, Vijay Kumar Verma**

Paper Title: **Mining Functional Dependency from Relational Databases by Removing Redundant Candidates**

Abstract: Discovery of functional dependencies from relational data base has been identified as an important database analysis technique. In this paper, we present a new approach for finding functional dependencies from large databases, based on partitioning the set of rows with respect to their attribute values. The discovery of functional dependencies is easy and efficient due to use of partitions, and the wrong or exceptional rows can be recognized easily. By using this we can eliminate equivalence attribute and redundant dependency. For standard databases the running times are better by several orders of degree over previously published results. The proposed algorithm is also works well for larger datasets than the previous methods.

Keywords: Functional dependencies, closure of set, redundancy, normalization

References:

1. Jixue Liu, Jiuyong Li, Chengfei Liu, and Yong Feng Chen “Discover dependencies from Data—A review” IEEE transactions on knowledge and data engineering, vol. 24, no. 2, February 2012
2. Vijaya Lakshmi, Dr. E. V. Prasad a fast and efficient method to find the conditional functional dependencies in databases International journal of engineering research and development e-issn: 2278-067, P-ISSN: 2278-800x, www.ijerd.com volume 3, issue 5 (august 2012), pp. 56
3. Nittaya Kerdprasop and Kittisak Kerdprasop “Functional dependency discovery via Bayes net analysis” recent researches in computational techniques, non-linear systems and control ISBN: 978-1-61804-011
4. Y.V.Sreevani, T. Venkat Narayana Rao “Identification and Evaluation of Functional Dependency Analysis using Rough sets for Knowledge Discovery “ (IJACSA) International journal of advanced computer science and applications, vol. 1, no. 5, November 2010
5. Jalal Atoum, Dojanah Bader and Larafat Awajan “Mining functional dependency from relational databases using equivalent classes and minimal cover “ Journal of computer science 4 (6): 421-426, 2008 ISSN 1549-3636© 2008 science publications
6. H. Yao, H.J. Hamilton and Cory J Butz “FD_Mine: Discovering Functional Dependencies in a database Using Eqivalences,” J. Data Mining and Knowledge Discovery, vol. 16, no. 2, pp. 197-219, 2008
7. H. Yao and H.J. Hamilton, “Mining Functional Dependenciesfrom Data,” J. Data Mining and Knowledge Discovery, vol. 16, no. 2, pp. 197-219, 2008.
8. St_ephane Lopes, Jean-Marc Petit, and Lot_ Lakhal “Dep-Miner Effective Discovery of Functional Dependencies and Armstrong Relations” Springer-Verlag Berlin Heidelberg 2000, pp. 350-364
9. N. Novelli and R. Cicchetti, “Fun: An Efficient Algorithm for Mining Functional and Embedded Dependencies” Lecture Notes in Computer Science Volume 1973, 2001, pp 189-203
10. Y. Huhtala, J. Karkkainen, P. Porkka, and H. Toivonen, “Tane : An Efficient Algorithm for Discovering Functional and Approximate Dependencies,” Computer J., vol. 42, no. 2, pp. 100-111, 1999.
11. Vijay Verma and Pradeep Sharma,” Data Dependencies Mining In Database by Removing Equivalent Attributes” IJCSE, Vol.-1, Issue-1, July 2013
12. Avi Silberschatz , Henry F. Korth ,S. Sudarshan,”Databse System Concepts, Sixth Edition, McGraw-Hill ISBN 0-07-352332-1

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74.

Authors: **Zaveri Juhi Mukesh, A.A.Shinde**

Paper Title: **Absorbance Measurement of Dilute Chemical Solutions**

Abstract: Within the past few years a number of different designs of photoelectric calorimeters have been described in the literature. This paper addresses the absorbance measurement of visible light through different sample solutions at different range of wavelengths by using different colour filter and the results have been compared with the absorbance values obtained by a digital colorimeter. The Absorbance measurement has then been shown on an 16x2 LCD display by use of a PIC16F877a microcontroller.

Keywords: LED, LDR, colorimeter, absorbance, filter, wavelength, LCD, Microcontroller.

References:

1. G.MACKINNEY “Absorption of light by Chlorophyll Solutions”, University of California, Berkley, March 13, 2006
2. Colour. Encyclopaedia Britannica. Encyclopaedia Britannica Online. Encyclopaedia Britannica Inc., 2011.Web. 17 Nov. 2011.
3. Mandeep Singh “Introduction to Biomedical Instrumentation” Volume III
4. Colorimetry Encyclopædia Britannica. Encyclopaedia Britannica Online. Encyclopædia Britannica Inc., 2011. Web. 17 Nov. 2011.
5. Istvan T.Rada, Marta Deri “The Colorimeter”.

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75.

Authors: **K.V.Krishnasastry, V.Seshagirirao, Abhishek Kuravi**

Paper Title: **Minimization of Delamination Factor in Drilling Of Reinforced Carbon-Carbon (RCC) Composite Material by Applying Taguchi Method**

Abstract: Nowadays, The Reinforced Carbon-Carbon (RCC) Composite material is gaining significant place among the various engineering materials. The light weight and high strength composite is finding its way in recent advanced applications like Medical, Space, Defence and Bio related fields. The growing use of this composite in these advanced industries has created inquisitiveness among researchers and prompted them to study about developing technology for machining of these composites, especially with respect to the drilling operation. Drilling is the most frequently used material removal process and the production of a good quality hole will enhance the quality of the final product. The quality of hole of a composite depends on delamination mechanism and the increase in delamination factor reduces the quality of the product.This paper presents the application of Taguchi method to determine the suitable values of drilling parameters of RCC for the minimization of delamination factor.Taguchi technique emphasizes the importance of studying the response characteristic variation using S/N ratio, resulting minimization of variation in quality characteristic due to uncontrollable parameters. High Speed Steel tool is used for drilling the work piece material, i.e. RCC composite on a CNC machine.

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Keywords: Carbon-Carbon composites, RCC, CFRC, S/N ratio, Drilling operation, Orthogonal Array, Design of experiments.

References:

1. K. V. Krishnasastry, V. Seshagirirao. (2013, Septmeber). Parametric Optimization of CFRC Composite Drilling with HSS Drillbyusing GRA. 2(9). Available : www.ijirset.com
2. K. V. Krishnasastry, V. Seshagirirao. (2013 Septmeber). Application of Grey Relational Analysis to Determine the Optimum Drilling Parameters of RCC. 1(4). www.Ijreat.org.
3. K. V. Krishnasastry, S. Dhanalakshm., V. Seshagirirao, K. Palanikumar, "Characteristics of re-inforced Carbon-Carbon. In Frontiers in Automobile and Mechanical Engineering (FAME), IEEE, 2010, pp. 12-15.
4. Krishan.K.Chawla. "Composite materials Science and Engineering,"ed.2. New Delhi:Springer, 2008.
5. K. V. Krishnasastry, S. Dhanalakshm., V. Seshagirirao, K. Palanikumar, "CFRC- A new millennium composite material," Recent advances in mechanical engineering, Int. Conf. Chennai, 2011. pp.32-36.
6. K. V. Krishnasastry, V. Seshagirirao, "Carbon fibre reinforced CARBON (CFRC)-A SPECIAL material,"Pressure Vessels and Piping,Int. conf. Chennai 2013, pp120-86.
7. J.R.Ferriera, "Characteristics of carbon-carbon composite turning," J. Mater. Proc.Tech, Vol.109, 2001, pp. 65-71.
8. P. M. George, B. Raghunath., L. M. Manocha, A. M Warrier, "EDM machining of carbon-carbon composite – a Taguchi approach", Vol. 145.
9. P. J. Ross, "Taguchi Techniques for Quality Engineering,"New York: McGraw-Hill, 2004, pp. 66-71.
10. Krishankant, Jatin Taneja, Mohit Bector, Rajesh Kumar, "Application of Taguchi Method for Optimizing Turning Process by the effects of Machining Parameters," Int. J.Eng. &Adv. Tech.ISSN: 2249 – 8958, Vol.2.
11. U.A. Khashaba, "Drilling analysis of chopped composites," Composites: Part A, 38(2007): pp. 61-70.
12. U.A. Khashaba, "Delamination in drilling GFR-Thermoset composites," J.Comps. struc. 2004. 63. PP. 329-338.
13. W. R. Koenig. "Machining of fibre reinforced plastics," Ann.CIRP, Vol.34, pp 537-548.
14. M. A. Seif,"Measuring delamination in carbon/epoxy composites using shadow moiré laser based imaging technique," Comps. Struc. vol. 79. pp113-118.

76.

Authors: **P.H.V.Sesha Talpa Sai, J.V.Ramana Rao, Devarayapalli K.C., K.V.Sharma**

Paper Title: **Preparation and Characterization of TiO2-SiO2 Sol-Gel Anti Reflection Coatings on Multi Crystalline Silicon Solar Cell**

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Abstract: Nano scale TiO_2 and TiO_2–SiO_2 mixed solutions have been prepared using sol-gel process and are deposited on multi crystalline silicon solar cell by spray process. Subsequent annealing is carried out to obtain amorphous crystalline structure of TiO_2 and to form crack free and homogeneous coating of TiO_2–SiO_2 mixed layer. The coated cells are characterized by scanning electron microscopy (SEM), Fourier transform infrared (FTIR) spectroscopy and Energy dispersive X-ray Spectroscopy (EDS). Electrical parameters are estimated to observe the enhancement of conversion efficiencies of the coated cells. Results obtained shows that the cell coated with mixed solution of TiO_2–SiO_2 gives better performance than the cell coated with TiO_2 solution. It is due to the introduction of SiO_2 particles during the synthesis of TiO_2 which enhances the optical and electrical properties of the thin film coat of the compound solution. Subsequent annealing after the coatings helps in forming homogeneous layer with reduced cracks on the surface and increased conversion efficiency of the multi crystalline silicon solar cell.

Keywords: Multi crystalline silicon solar cell, Sol-Gel, TiO_2, TiO_2-SiO_2.

References:

1. Leonid A. Kosyachenko, "Solar cell – Thin film technologies" IN TECH WEB.ORG, 2011, ch.1.
2. L.A.Dobrzanski,A.Drygala, " Surface texturing of multicrystalline silicon solar cells", Jounal of achievements in Materials and Manufacturing Engineering 31, 2008, 77-82.
3. L.A.Dobrzanski,A.Drygala, " Processing of silicon surface by Nd:YAG laser" , Journal of achievements in Materials and Manufacturing Engineering 17, 2006, 321-324.
4. Khalid Z. Yahia, " Simulation of Multilayer anti reflection coating for visible and near IR region on silicon substrate using MATLAB program", Journal of Al-Nahrain University 12 (4), 2009, 97-103.
5. G. San Vicente, A.Morales, M.T. Gutierrez, "Sol-Gel TiO2 antireflective films for textured monocrystalline silicon solar cell" Thin Solid Films, 403-404, 2002, 335-338.
6. G. San Vicente, A.Morales, M.T. Gutierrez, "Preparation and characterization of sol-gel TiO2 antireflective coatings for silicon" Thin Solid Films, 391, 2001, 133-137.
7. L.Andronic, S.Manolache, A.Duta, "TiO2 thin films prepared by spray pyrolysis deposition (SPD) and their photocatalytic activities", Journal of optoelectronics and advanced materials , 9, 2007, 1403-1406.
8. Bryce S. Richards, Jeffrey E. Cotter, Christina B. Honsberg, Stuart R. Wenham, "Novel uses of TiO2 in crystalline silicon solar cells", Presented at 28th IEEE PVSC,15-22 September, Anchorage, Alaska, 2000.
9. H.J.Bae, S.M. Kang, T.S. Kim, D.H.Yoon, "one step sol-gel method for the formation of etch free texturing anti-reflection coatings and p-n junction for silicon solar cells", Thin solid films, 519, 2011, 4714-4716.
10. Barbara Swatowska, Tomasz Stapinski, Kazimierz Drabczyk, Piotr Panek, " The role of antireflective coatings in silicon solar cells – the influence on their electrical parameters" Optica Applicata, Vol. XLI, 2011, 487-492.
11. Per Nostell, Arne Roos, Bjorn Karlsson, "optical and mechanical properties of sol-gel antireflective films for solar energy applications" Thin solid films, 351, 1999, 170-175.
12. C.Martinet, V.Paillard, A.Gagnaire, J.Joseph, "Deposition of SiO2 and TiO2 thin films by plasma enhanced chemical vapor deposition for antireflection coating" Journal of non-crystalline Solids, 216, 1997, 77 -82.
13. Jinkuk Kim, Jejun Park, Ji hwa Hong, Sung jin Choi, Gi Hwan Kang, Gwon Jong Yu, Nam Soo Kim, Hee-eun Song, "Double antireflection coating layer with silicon nitride and silicon oxide for crystalline silicon solar cell" J Electroceram, 30, 2013, 41-45.
14. P.H.V.Sesha Talpa Sai, J.V.Ramana Rao, Devarayapalli K.C., K.V.Sharma, "Synthesis and application of multi layer anti-reflection coating by sol-gel process for multi crystalline silicon solar cell" submitted for publication.

77.

Authors: **Nikita Bhatia, Richa Srivastava**

Paper Title: **Two Tier Data Compression Method for Real- Time Databases**

400-403

Abstract: Modern day applications handle large volumes of data. These applications involve real-time data manipulations to be carried within time constraints. So real-time databases are used in most of the real-time applications. For efficient utilisation of database, with no compromise on speed, various compression methods are used to compress the data in a real-time database. In this paper, we propose a two-stage compression process. This process uses two algorithms- Swinging Door algorithm and LZSH algorithm. The survey indicates that this two stage compression results in highly compressed data. The compression time is always less than the database computational time.

Keywords: Real-time database, Data Compression, Swinging Door algorithm, LZSH algorithm.

References:

1. Web course on “Real-time Databases” Version 2, CSE, IIT Kharagpurhttp://nptel.iitk.ac.in/
2. G. O. Young, “Synthetic structure of industrial plastics (Book style with paper title and editor),” in Plastics, 2nd ed. vol. 3, J. Peters, Ed. New York: McGraw-Hill, 1964, pp. 15–64.
3. Edgar H. Bristol, “Data compression for display and storage”, US4669097 A, The Foxboro Company, May 1987
4. Si-huiShu, Yi Shu, “A Two-Stage Data Compression Method For Real-time Database”, 3rd International Conference on System Science, Engineering Design and Manufacturing Informatization, 2012

78.

Authors:	**Dharmendra Patidar, Nitin Jain**
Paper Title:	**Classification of Image by Combining Wavelet Transform and Neural Network**

Abstract: Image classification plays an important role in many tasks, which is still a challenging problem in organizing a large image database. However, an effective method for such an objective is still under investigation. In this paper, we propose a supervised method for image classification based on combination of wavelet transform and Neural Network (NN). Neural network has been increasingly used in image classification in the last few decades. The proposed scheme for successful classification is combination of a wavelet domain feature extractor and back propagation neural networks (BPNN) classifier. For achieving a suitable way for classification of image here we first use wavelet transform. In present day wavelet transform is most popular and widely used method for image classification. Wavelet transform is a well-known tool for signal/image analysis. It provides a time–frequency representation of the data as well. Wavelet transform first takes image from given data base, analysis this image and decompose main image into sub image and gives information about texture and shape from given image. In this proposed method of image classification first we divide all given image into six parts. For obtaining the necessary and required information from each part of the given divided image we use first order color movements and daubechies4 (db4) types of wavelet transform. This proposed method for classification of image is fully based on back propagation. Information about the color movement is used as a first input for NN. Second input is a deubechies4 transform of wavelet is used for NN.Final step of classification is based on back propagation neural network (BPNN) with one hidden layer. Back propagation, an abbreviation for "backward propagation of errors", is a common method of training artificial neural networks.backpropagation is based on weight of input and output neurons. In neuroscience and computer science, synaptic

Weight refers to the strength or amplitude of a connection between two nodes, corresponding in biology to the amount of influence the firing of one neuron has on another. The term is typically used in artificial and biological neural network research this new approach of classification of image is based on the texture, information of color and shape.170 aircraft color image were used for training and 200 for testing. Resulting data consist of 98% and 90% efficiency for training and testing respectively.

Keywords: Back Propagation, Color Moment, Neural Network, Wavelet Transform.

404-408

References:

1. Gong, P. and Howarth, P.J.,”Frequency-based contextual classification and gray-levelvector reduction for land-use identification” Photogrammetric Engineering and RemoteSensing, 58, pp. 423–437. 1992.
2. Kontoes C., Wilkinson G.G., Burrill A., Goffredo, S. and Megier J, “An experimental system for the integration of GIS data in knowledge-based image analysis for remote sensing of agriculture” International Journal of Geographical Information Systems, 7, pp. 247–262, 1993.
3. Niblack, R. Barber, W. Equitz, M. Flickner, E. Glasman, D. Petkovic, P. Yanker, C. Faloutsos, G.m Taubin, “The QBIC Project: Querying Images by Content Using Color, Texture,and Shape”, Proc. Int.Conf. on Storage and Retrieval for Image and Video Databases, Bellingham, pp. 173-187, 1993.
4. Foody G.M., ”Approaches for the production and evaluation of fuzzy land cover classification from remotely-sensed data” International Journal of Remote Sensing, 17,pp. 1317–1340 1996.
5. San miguel-ayanz, J. and Biging, G.S,” An iterative classification approach for mapping natural resources from satellite imagery” International Journal of Remote Sensing, 17, pp. 957–982 , 1996.
6. J. R. Smith, S. F. Chang, “Tools and Techniques for Color Image Retrieval”, Proc. Int. Conf. on Symposium on Electronic Imaging: Science and Technology Storage and Retrieval forImage and Video Databases IV, San Jose, pp. 426-437, 1996.
7. Aplin P., Atkinson P.M. and Curran P.J,” Per-field classification of land use using the forthcoming very fine spatial resolution satellite sensors: problems and potential solutions” Advances in Remote Sensing and GIS Analysis, pp. 219–239,1999.
8. Stuckens J., Coppin P.R. and Bauer, M.E.,”Integrating contextual information with per-pixel classification for improved land cover classification” Remote Sensing of Environment, 71, pp. 282–296, 2000
9. Mojsilovic A., Popovic M.V. and D. M. Rackov, “On the selection of an optimal wavelet basis for texture characterization”, IEEE Transactions on Image Processing, vol. 9, pp. 2043–2050, December 2000.
10. M. Unser, “Texture classification and segmentation using wavelets frames”, IEEE Transactions on Image Processing, vol. 4, pp. 1549–1560, November 1995.
11. M. Stricker and M. Orengo. Similarity of color images. In In SPIE Conference on Storage and Retrieval for Image and Video Databases III, volume 2420, pages 381--392, Feb. 1995.
12. Yu H., Li M., Zhang H. and Feng J., "Color texture moment for content-based image retrieval", Proc. IEEE Intl Conf. on Image Processing, September, 2002
13. Hui Yu, Mingjing Li, Hong-Jiang Zhang, Jufu Feng. "Color Texture Moments for Content-Based Image Retrieval". Proc. IEEE Intl Conf. on Image Processing, pp. 929-932, Sep. 2002
14. Xiaoyin Duanmu. "Image Retrieval Using Color Moment Invariant". Seventh International Conference on Information Technology, pp. 200-203, 2010
15. J. M. Shapiro, “Embedded image coding using zerotrees of wavelet co-efficients,” vol. 41, pp. 3445–3462, Dec. 1993.
16. A. Said and W. A. Pearlman, “A new, fast, and efficient image codec based on set partitioning in hierarchical trees,” vol. 6, pp. 243–250,

June1996.
17. D. Taubman, “High performance scalable image compression with ebcot,” in Proc. International Conference on Image Processing ICIP 99, vol. 3, pp. 344–348, Oct. 24–28, 1999.
18. W. Niblack, R. Barber, W. Equitz, M. Flickner, E. Glasman, D. Petkovic, P. Yanker, C. Faloutsos, G. Taubin, “The QBIC Project: Querying Images by Content Using Color, Texture, and Shape”, Proc. Int. Conf. on Storage and Retrieval for Image and Video Databases, Bellingham, pp. 173-187, 1993.
19. M. J. Swain, D. H. Ballard, “Color Indexing”, International Journal of Computer Vision, Vol. 7, No. 1 , pp. 11-32, 1991.

79.

Authors: **Kavita Rawat, Kavita Burse**

Paper Title: **A Soft Computing Genetic-Neuro fuzzy Approach for Data Mining and Its Application to Medical Diagnosis**

409-411

Abstract: A novel way to enhance the performance of a model that combines genetic algorithms and neuro fuzzy logic for feature selection and classification is proposed. This research work involves designing a framework that incorporates genetic algorithm with neuro fuzzy for feature selection and classification on the training dataset. It aims for reducing several medical errors and provides better prediction of diseases. Medical diagnosis of diseases is an important and difficult task, and a proposed method performs feature selection and parameters setting in an evolutionary way. The wrapper approach to feature subset selection is used in this paper because of the accuracy. The performance of the ANFIS classifier was evaluated in terms of training performance and classification accuracy. The objective of this research is to simultaneously optimize the parameters and feature subset without degrading the ANFIS classification accuracy. To verify the effectiveness of the proposed approach, it is tested on ovarian cancer dataset.

Keywords: Feature selection, GA, ANFIS, RMSE.

References:

1. Holland, John H, “Adaptation in Natural and Artificial Systems,” in University of Michigan press,1975
2. Murat Karabatak, M. Cevdet Ince,"New feature selection method based on association rules for diagnosis of erythemato-squamous diseases", ELSEVIER Expert Systems with Applications 36 (2009) 12500–12505.
3. Sean N. Ghazavi, Thunshun W. Liao, “Data mining by fuzzy modeling with selected features", ELSEVIER Artificial Intelligence in Medicine (2008) 43, pp.195—206.
4. E.P.Ephzibah, “Cost effective approach on feature selection using genetic algorithm and fuzzy logic for diabetes diagnosis”, in proceeding of International Journal on Soft Computing (IJSC), Vol.2, No.1, February 2011.
5. Mehdi Khashei, Ali Zeinal Hamadani, Mehdi Bijari, “A fuzzy intelligent approach to the classification problem in gene expression data analysis".ELSEVIER Knowledge-Based Systems 27 (2012) 465–474
6. A. Zibakhsh, M. Saniee Abadeh," Gene selection for cancer tumor detection using a novel memetic algorithm with a multi-view fitness functions". Engineering Applications of Artificial Intelligence 26 (2013) 1274–1281
7. Christelle Rayne’s, Robert Sabatier, Nicolas Molinari, Sylvain Lehmann, “A new genetic algorithm in proteomics: Feature selection for SELDI-TOF data” in proceeding of Elsevier Computational Statistics and Data Analysis 52 (2008) 4380–4394.M. Young, The Techincal Writers Handbook. Mill Valley, CA: University Science, 1989.
8. Waqar Aslam, Zhechen Zhu, Asoke Kumar Nandi ," Feature generation using genetic programming with comparative partner selection for diabetes classification", Expert Systems with Applications 40 (2013) 5402–5412
9. Mahjabeen Mirza Beg, Monika Jain ," An analysis of the methods employed for breast cancer diagnosis”, in proceeding of International Journal of Research in Computer Science ISSN 2249-8265 Volume 2 Issue 3 (2012) pp. 25-29.
10. Mohammad Jalali Varnamkhasti, “ANFISGA -Adaptive Neuro-Fuzzy Inference System Genetic Algorithm” in proceeding of Global Journal of Computer Science and Technology Volume 11 Issue 1 Version 1.0 February 2011.
11. Mohd Fauzi bin Othman, Thomas Moh Shan Yau," Neuro Fuzzy Classification and Detection Technique for Bioinformatics Problems", IEEE Conference on (AMS'07).
12. Deepak Dhanwani, Avinash Wadhe,"Study of hybrid genetic algorithm using artificial neural network in data mining for the diagnosis of stroke disease".IJCER Vol, 03 Issue, 4.
13. http://home.ccr.cancer.gov/ncifdaproteomics/ppatterns.asp

80.

Authors: **Hodeis Abbasi Ghadikolaei, Fereridoon Owfi, Kamyar Gharra, Mohammadreza Hayatbakhsh**

Paper Title: **Morphology and Systematic review of Muraenidae in Iranian Museums of the Persian Gulf and Oman Sea's waters**

412-417

Abstract: Species belonged to Muraenidae family from Anguiliformes order was apart of fish fauna in the Persian Gulf and Oman Sea. These species are economically and (nourishing) ornamentally valuable. This research revising the samples taxonomy and systematic typology of Muraenidae in south coast of Iran such as: Bushehr, Chabahar, Bandar Abbas, Bandar lengeh and the rest from museums, universities and research centers in Iran (Fishing area51) form2007-2008.The whole Ichthyology valid published references in this area were considered. The result showed that: among 27 eels samples 13 samples were in Muraenidae family. Gymnothorax undulateswas a native species in Iranian Sea zone and seven samples as: Gymnothorax sp, Gymnothorax kidako, Gymnothorax phasmatodes, Gymnothorax johnsoni, Rhinomuraena quaestia and Strophidon sathete were identified and reported for the first time in the Persian Gulf and Oman Sea's waters.

Keywords: Muraenidae, systematic review, Persian Gulf, Oman Sea.

References:

1. AL-Abdesalaam, T.Z, 1995. Marine species of the sultanate of Oman Marine science and fisheries center, oman.p234-236,246-247.
2. Al- Bahrana, S.W.1986.Fishes of Bahrain, Ministry of commerce and Agriculture directorate of Bahrain fisheries. First edition. P 173-176.
3. Belgvad and Loppenthin , 1937.Volum on the fishes of the Iranian Gulf(1944).part III of Danish Scientific Investigation in Iranian Gulf,12col,pls.copenhagen.
4. Biswas, s.p., 1993.Manual of methods in fish biology. South Asia. Publishers' .pvt. Ltd. Newdelhi, 195p.
5. Bianchi, G.1995.Field guide to the commercial marine and brackish water of Pakistan.FAO.Rome.p15-18
6. Bleeker, p., 1854. Fauna ichthyologicae japonicae species novae. Naturk.Tijdschr.Ned- indie6:395-426
7. Coad, W. B, 1992, Check list & Bibliography in Persian Gulf fish,
8. Carpenter, K.E .1997.The Corals and Coralline Reef Fishes of Kuwait .Kuwait Institute for Scientific Research.p92-93.
9. Carpenter, K.E., F.kurp p, O.A.Jones and Zajonz, 1997.Living marine resource of Kuwait, Stern Saudi Arabia, Bahrain, Qatar and United Arab Emirates.Rome.P106-109.

10. Deburin, G.H.P.1994. The marine fishery resource of Serilanka.Rome.P94-95&272-278.
11. Dehghani ,N., and Asadi, 1996. Persian Gulf and Oman Sea fishes published from Iranian Scientific &Research organization, Tehran.pp:350.
12. FAO, 1986.Review of the fish stated of the world fishery resources; Marine fisheries.Western Indian Ocean (FAO Statistical Area 51), Rome. Italy.
13. FAO, 1997.FAO fisheries circular No.920 FIRM/C920. ISSN0429-9329.(FAO Statistical Area 51) Rome.
14. Fischer, W. and Bianchi, G., 1984.FAO species Identification sheets for fishery purposes western Indian ocean (fishing area51), volum1.Rome.p 6- 7.
15. Fish Base, 2013.Available from: www.fishbase.com/July2013.
16. Froese Rainer and Pauly Daniel, 2013. Available from; Seaarounds.org/ Researcher/Dpauly.pdf
17. Hoseinzadeh,H. and Kamali,E. 2003; Ornamental fishes of the Persian gulf published from Iranian fisheries science &Research organization, Tehran.65p.
18. Javid Mohammad Pour,Owfi,F.2001. The reviews and defect of systematic, Taxonomy of Persian Gulf & Oman sea's bony fish classification in International Natural History Museum of Iran, Tehran .MSC. Thesis, Tarbiat Modares University, Noor.
19. Khalaf, M. & Disi, A, 1997. Fishes of the Gulf of Aqaba, Marine Sciuence Station, Jordasn.
20. Kuiter, R.H.2002.Guide to sea fishes of Australia publishers New Holland.p26-29.
21. Kuronuma, K. and Abe, Y.1986. Fishes of the Bahrain Gulf, Kuwait institute for scientific research .p 45-46.
22. Kuronuma, K. and Abe, Y.1972.fishes of Kuwait,Kuwait.xIV,123pp.20plts.Boards,d/j.
23. Owfi, F.2005a. Check list and species diversity of the Persian Gulf & Oman Sea, Anguilliformes IFRO/ /UNCC Geneva, Suisse.p185.
24. Owfi, F.2005b.Anguilliformes Fishes Diversity IFRO/ /UNCC Geneva, Suisse. p185.
25. Owfi, F and Rabbaniha. M, 2007. Environmental management of Iranian coastal zone (marine fish fauna research) Volume 5; Iranian port and navigate organization, Tehran. P 1-12.
26. Randall, J.E.1995. Coastal fishes of Oman. Published by university of Hawaii press .P 53-63.
27. Reef Base.com. Available from: www.reefbase.com/july2013.
28. Smith, J.L.B. and Smith, M.M.1963.The fishes of Seychelles. Rhodes University, Grahmstown. 215p.
29. Smith, M. & Heemstra, P.C.1986. Smith's Sea Fishes. Springer - Verlag.
30. Sommer, C, 1996.THE Living marine resources of Somalia.FAO.Rome. P135-142
31. Vander laan,R.,Fricke,R. and Eschmeyer,W.N,2013. Fish catalogue of life electronic version accessed dd mmm.
32. Yasemi.M;keyvan.A;falahatkar.B;farzingohar.M;sharfpour. I;owfi,F;Vossoughi,G.H.and Ahmadi,M.R.2008.Pleuronectiformes species identification along the Iranian coastline of the Persian Gulf .fisheries sciences ,vol.7,No.2

81.

Authors: **Rakhesh Kusagur, Leelavathi G.**

Paper Title: **Hardware Implementation of Involutional SPN Block Ciphers**

Abstract: Consider the two involutional SPN (substitution-permutation network) block ciphers, namely KHAZAD and BSPN, since both of these algorithms adopt SPN structure. Investigation of the energy cost of the FPGA implementation of these two cryptographic algorithms targeted to wireless sensor networks (WSNs) has to be done. Recent trends have seen the emergence of WSNs using sensor nodes based on reprogrammable hardware, such as a field-programmable gate arrays (FPGAs), thereby providing flexible functionality with higher performance and speed than classical microcontroller based sensor nodes. Investigation of the hardware implementation of involutional SPN block ciphers has to be carried out since the characteristics of involution enables performing encryption and decryption using the same circuit. This characteristic is particularly suitable for a wireless sensor node which requires the function of both encryption and decryption. Further, in order to consider the suitability of a block cipher for some of the applications like wireless sensor node, it is most critical to consider the cost of encryption in terms of energy consumption because wireless sensor node is a energy constrained device. Hence, it is appropriate to chose two involutional SPN block ciphers namely KHAZAD and BSPN and analyze their energy efficiency for implementation in the FPGA.

Keywords: Security, block ciphers, Field programmable gate arrays, involutional.

References:

1. Xueying Zhang, H.M. Heys, and Cheng Li, “FPGA Implementation of Two Involutional BlockCiphers Targeted to Wireless Sensor Networks”, 6th International ICST Conference on Communications and Networking in China, 2011.
2. P. Muralidhar and C.B.Rama Rao, "Reconfigurable Wireless Sensor Network Node based on NIOS core," In Proc. of 4th Wireless Communication and Sensor Networks (WCSN 2008), pp. 67-72, Jhalwa, India, Dec. 2008.
3. E. Susu, M. Magno, A. Acquaviva, and D. Atienza, "Reconfiguration Strategies for Environmentally Powered Devices: Theoretical Analysis and Experimental Validation", Transactions on High-Performance Embedded Architectures and Compilers I (HiPEAC I), pp. 341-360, 2007.
4. J. Portilla, A. de Castro, E. de la Torre, T. Riesgo, “A Modular Architecture for Nodes in Wireless Sensor Networks”, Journal of Universal Computer Science(JUCS), vol. 12, no 3, Mar. 2006, pp. 328-339.
5. X. Zhang, Energy Efficiency in Secure Wireless Networks, M.Eng Thesis, Memorial University of Newfoundland, 2010.
6. Y. Wang, G. Attebury, B. Ramamurthy, "A Survey of Security Issues in Wireless Sensor Networks," IEEE Communications Surveys & Tutorials, vol.8, no.2, pp. 2-23, 2006.
7. W. K. Koo, H. Lee, Y. H. Kim and D. H. Lee, "Implementation and Analysis of New Lightweight Cryptographic Algorithm Suitable for Wireless Sensor Networks," in Proc of 2008 Information Security and Assurance (ISA 2008), pp.73-76, Korea, April 2008.
8. A. S. Wander, N. Gura, H. Eberle, V. Gupta, and S. C. Shantz, "Energy Analysis of Public-key Cryptography for Wireless Sensor Networks," in Proc of 2005 Pervasive Computing and Communications (PerCom2005), pp.324-328, Germany, March 2005.
9. R. Tahir, M. Y. Javed, M. Tahir and F. Imam, "LRSA: Lightweight Rabbit Based Security Architecture for Wireless Sensor Networks,"in Procof 2008 Intelligent Information Technology Application (IITA'08) ,vol.3, pp.679-683, China, Dec. 2008.
10. M. Henricksen, "Tiny Dragon - An Encryption Algorithm for Wireless Sensor Networks," in Proc of 10th High Performance Computing and Communications, (HPCC '08), p.p. 795-800, 25-27 Sept. 2008.
11. A. Perrig, R. Szewczyk, V. Wen, D. Culler, and J. D. Tygar, “SPINS: Security Protocols for Sensor Networks,” ACM Wireless Networks, vol.8, no. 5, pp. 521-534,Sept. 2002.
12. A.J. Menezes, P. van Oorschot, and S.A. Vanstone, Handbook of Applied Cryptography.CRC Press, 1997.
13. J. Hill, R. Szewczyk, A. Woo, S. Hollar, D. Culler, and K. Pister, "System Architecture Directions for Networked Sensors," in Proc. Of ACM ASPLOS IX,pp. 93-104, Nov 2000.
14. X. Zhang, H.M. Heys, and C. Li, "An Analysis of Link Layer Encryption Schemes in Wireless Sensor Networks," in Proc of IEEE International Conference on Communications (ICC 2010), Cape Town, May 2010.
15. B. Schneier, Applied Cryptography, Second Edition: Protocols, Algorithms, and Source Code in C. John Wiley & Sons, 1996.

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82.

Authors: **Shraddha Thakkar, Sheldon Fernandes, Sharad Venkataraman, Amogh Waghmare, Karan Munyal**

Paper Title: **Detection of Industrial Accidents using Biomimetics**

Abstract: It is of foremost importance in any industry to detect any flaws in the components that deal with volatile materials. The prevalent means to achieve this is through static observation points. A more efficient method would be to accomplish proper surveillance through mobile robot that can navigate through the complex maze of pipes. In this paper, a method to achieve the same has been proposed, based on the 'Biomimetics'. The proposed model has been implemented and results have been presented in the paper.

Keywords: Baud rate, Biomimetics, Zigbee.

References:

1. Tom Mueller, Biomimetics: Design by Nature, National Geographic Magazine, April 2008
2. B Mazzolai1, L Margheri, M Cianchetti, P Dario and C Laschi, Soft-robotic arm inspired by the octopus, IOP Publishing Ltd, Published 22 May 2012.
3. Aksel Andreas, Transeth and KristinYtterstad Pettersen, Development in Snake Robot Modeling and Locomotive, Department of Engineering Cybernetics, Norwegian University of Science and Technology
4. Cornell Wright et al, Design of a Modular Snake Robot, Proceedings of the 2007 IEEE/RSJ International Conference on Intelligent Robots and Systems, San Diego, CA, USA, Oct 29 - Nov 2, 2007
5. Ross L. Hatton and Howie Choset, Generating gaits for snake robots: annealed chain fitting and keyframe wave extraction, http://www.cse.iitk.ac.in/users/cs365/2012/submissions/devvarat/cs365/projects/fulltext.pdf

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83.

Authors: **Maitrayee Devi, A.A. Shinde**

Paper Title: **Signal Analysis of Real Time Signals to Remove Noise**

Abstract: Removal of noise is very important branch in Digital Signal Processing. This paper addresses the analysis of real time signals to finally remove noise from the signals. In the proposed technique these signals are analyzed by comparing the results in Spectrum Analyzer and MATLAB. This is performed by evaluating the FFTs first and Hanning window is applied to it. Similar process is done in MATLAB. Also noise is introduced to the signals and in the same time removed. By analyzing these real time signals we can say that the results in Spectrum Analyzer are almost same with the results in MATLAB.

Keywords: Real Time Signal , Analysis, MATLAB, Spectrum Analyzer, FFT, Frequency, Filter, Noise.

References:

1. E. Oran Brigham, "The Fast Fourier Transform and Its Applications", 1988
2. Harris, F.J., "On the use of windows for harmonic analysis with the discrete Fourier Transform", Proc, IEEE, 66, 51-83, 1978
3. Chi Chang-yan, Zhang Ji-xiana, Liu Zheng-juna, "Study on Methods of Noise Reduction in a Stripped Image"
4. Ce Liu,Richard Szeliski, Sing Bing Kang,C. Lawrence Zitnick, William T. Freeman, "Automatic Estimation and Removal of Noise from a Single Image"
5. http://en.wikibooks.org/wiki/Digital_Signal_Processing/Windowing
6. http://en.wikipedia.org/wiki/Fast_Fourier_transform
7. http://www.mathworks.in/help/matlab/ref/fft.html
8. http://www.home.agilent.com/en/pd-1000003731%3Aepsg%3 Apro/intuilink-connectivity-software?&cc=IN&lc=eng

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84.

Authors: **B. Naveen, K. Swaraja, M. C. P Jagdissh**

Paper Title: **Parallel CRC Generation for High Speed Applications**

Abstract: Cyclic redundancy check is commonly used in data communication and other fields such as data storage and data compression, as a essential method for dealing with data errors. Usually, the hardware implementation of CRC computations is based on the linear feedback shift registers (LFSRs), which handle the data in a serial way only, Though the serial calculation of the CRC codes cannot achieve a high throughput. parallel CRC calculation can significantly increase the throughput of CRC computations. Variants of CRCs are used in applications like CRC-16 BISYNC protocols, CRC32 bit in Ethernet frame for error detection, CRC8 bit in ATM, CRC-CCITT in X-25 protocol, disc storage, SDLC, and XMODEM.

High speed data transmission is the current scenario in networking environment. Cyclic redundancy check (CRC) is essential method for detecting error when the data is transmitted. About the speed of transmitting data, and to synchronize with speed, it is necessary to increase speed of CRC generation. Starting from the serial architecture a recursive formula was used from which parallel design is obtained. But in this paper presents 64 bits parallel CRC architecture based on F matrix with order of generator polynomial is 32. It is hardware efficient and required 50% less cycles to generate CRC with same order of generator polynomial.

In this architecture w= 64 (input) bits are parallel processed and order of generator polynomial is m= 32. If 32 bits are processed parallely then CRC-32 will be generated after (k +m)/w cycles.Where 'k' indicates number of data bit and 'm' indicates the order of generator polynomial If we increase number of bits to be processed parallely, number of cycles required to calculate CRC can be reduced.

Keywords: Cyclic Redundancy Check, Parallel CRC calculation, Linear Feedback Shift Register, LFSR, F matrix.

References:

1. Campobello, G.; Patane, G.; Russo, M.; "Parallel CRC realization," Computers, IEEE Transactions on , vol.52, no.10, pp. 1312- 1319, Oct.2003
2. Albertengo, G.; Sisto, R.; , "Parallel CRC generation," Micro,IEEE , vol.10, no.5, pp.63-71,Oct1990
3. M.D.Shieh et al., "A Systematic Approach for Parallel CRC Computations," Journal of Information Science and Engineering, May 2001.
4. Braun, F.; Waldvogel, M.; , "Fast incremental CRC updates for IP over ATM networks," High Performance Switching and Routing,2001 IEEE Workshop on , vol., no., pp.48-52, 2001
5. Weidong Lu and Stephan Wong, "A Fast CRC Update Implementation", IEEE Workshop on High Performance Switching and Routing ,pp.

429-431

113-120, Oct. 2003.
6. S.R. Ruckmani, P. Anbalagan, “ High Speed cyclic Redundancy Check for USB” Reasearch Scholar, Department of Electrical Engineering, Coimbatore Institute of Technology, Coimbatore-641014, DSP Journal, Volume 6, Issue 1, September, 2006.
7. Yan Sun; Min Sik Kim; , "A Pipelined CRC Calculation Using Lookup Tables," Consumer Communications and Networking Conference (CCNC), 2010 7th IEEE , vol., no., pp.1-2, 9-12 Jan. 2010
8. Sprachmann, M.; , "Automatic generation of parallel CRC circuits," Design & Test of Computers, IEEE , vol.18, no.3, pp.108-114, May 2001.

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Authors: **K.Vasantha Kumar, P.Ram Reddy, D.V.Ravi Shankar**

Paper Title: **Influence of Angle Ply Orientation of Stacking On Mechanical Properties of Glass-Polyester Composite Laminate**

Abstract: This work investigates that the influences of angle ply orientation of stacking on mechanical properties of a E-glass general polyester and Isophthalic polyester composite laminate experimentally and comparing with the results with laminated software. He laminated software is developed based on laminate theory. Laminated Composite materials have characteristics of high modulus/weight and strength/weight ratios [1], excellent fatigue properties, and non-corroding behaviour. These advantages encourage the extensive application of composite materials, for example, in wind turbine blades, boat hulls, automobiles, water tanks, roofing, pipes and cladding, and aerospace. The understanding of the mechanical behaviour of composite materials is essential for their design and application. Although composite materials are often heterogeneous, they are presumed homogeneous from the viewpoint of macro mechanics and only the averaged apparent mechanical properties are considered. The most common method to determine these constants is static testing. In this work ten types of composite laminate specimens with different stacking sequences, i.e., (±00, ±100, ±300, ±400, ±450, ±550, ±650, ± 750, and ±900) are fabricated.
In this work, the specimens are prepared in the laboratory using compression mould technique E- glass as fiber & with Polyester resin as an adhesive. The specimens are prepared for testing as per ASTM standards to estimate the tensile modulus

Keywords: compression moulding, Degree of orientation, E-glass, General purpose polyester, Isophthalic polyester, MEKP, stacking sequence, tensile property,

References:

1. L. Tong, A.P. Mouritz and M.K. Bannister 3D Fibre Reinforced Polymer Composites Elsevier 2002.
2. Valery V, Vasiliev & Evgeny V Morozov Mechanics and Analysis of Composite Materials Elsevier 2001.
3. B. Gommers et.al, Determination of the Mechanical properties of composite materials by Tensile Tests, Journal of composite materials, Vol 32, pp 102 – 122, 1998.
4. Nestor Perez FRACTURE MECHANICS kluwer Academic publishers New York, Boston, Dordrecht, London, Moscow.
5. David Roy lance, Laminated Composite Plates, Department Of Materials Science And Engineering Massachusetts Institute Of Technology, February 10, 2000.
6. K. Harries, Fatigue behaviour of bonded FRP used for flexural retrofit, Proceedings of the International Symposium on Bond behaviour of FRP in Structures (BBFS 2005), December-2005
7. J. T. Evans and A. G. Gibson, Composite angle ply laminates and netting analysis, 10.1098/rspa.2002.1066
8. K. Rohwer, S. Friedrichs, C. Wehmeyer Analyzing Laminated StructuresFrom Fibre-Reinforced Composite Materia- An Assessment, Technische Mechanik, Band 25, Heft 1, (2005), 59-79.

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86.

Authors: **Deepambika V.A, Arunlal S.L.**

Paper Title: **Dense Stereo Correspondence Algorithm for Robotic Applications**

Abstract: Stereo vision, the passive sensing technique for inferring the three dimensional position of objects of a scene under study is having great applications in the field of machine vision, robotics, image analysis and image reconstruction. Robotics require computationally fast and easy to implement stereo vision algorithms that will provide reliable and accurate results under real time constraints. By using some similarity measure, the stereo correspondence, tries to find out the matching pixels or objects between left and right views of the scene. Since the focus is on real time application the local winner-take-all optimization in the disparity computation process is done in this study. The correspondence is done by using fast block matching Sum of Absolute Differences (SAD) algorithm .With the help of camera parameters and the disparity map obtained from this algorithm, the depth map of the scene under study is extracted by using the principle of triangulation. To simplify the correspondence search, rectified stereo image pairs are used as inputs.

Keywords: Stereo correspondence, Sum of Absolute Differences (SAD), Disparity, Depth.

References:

1. Radhakrishnamurthy, H. C., Murugesapandian, P., Ramachandran, N., & Yaacob, S. (2007). Stereo vision system for a bin picking adept robot.W.-K. Chen, Linear Networks and Systems (Book style).Belmont, CA: Wadsworth, 1993, pp. 123–135.
2. Fusiello, Andrea, Emanuele Trucco, and Alessandro Verri. "A compact algorithm for rectification of stereo pairs." Machine Vision and Applications 12.1 (2000): 16-22.
3. Tsai, R. Y. (1986). An efficient and accurate camera calibration technique for 3D machine vision. In Proc. IEEE Conf. on Computer Vision and Pattern Recognition, 1986.
4. Scharstein, Daniel, and Richard Szeliski. "A taxonomy and evaluation of dense two-frame stereo correspondence algorithms." International journal of computer vision 47.1-3 (2002): 7-42.
5. Matthies, Larry, Takeo Kanade, and Richard Szeliski. "Kalman filter-based algorithms for estimating depth from image sequences." International Journal of Computer Vision 3.3 (1989): 209-238.
6. Matthies, Larry. "Stereo vision for planetary rovers: Stochastic modeling to near real-time implementation." International Journal of Computer Vision 8.1 (1992): 71-91
7. Faugeras, Olivier, et al. "Real-time correlation-based stereo: algorithm, implementations and applications." (1993).
8. http://vision.middlebury.edu/stereo/data/
9. Lane, R. A., and N. A. Thacker. "Tutorial: overview of stereo matching research." Imaging Science and Biomedical Engineering Division, Medical School, University of Manchester (1998).
10. Sonka, Milan, Vaclav Hlavac, and Roger Boyle. "Image processing analysis and machine vision." (1999).

439-442

11. Wang, Liang, et al. "How far can we go with local optimization in real-time stereo matching." 3D Data Processing, Visualization, and Transmission, Third International Symposium on. IEEE, 2006.
12. Robert, L., et al. "Applications of nonmetric vision to some visually guided tasks." Visual Navigation (1996): 89-135.