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1.

Authors: Baha Ali Nasir

Paper Title: Performance Comparison between SCFDMA and OFDMA in 4G-LTE under Two Subcarrier Mapping within Variable Channel Cases

Abstract: The mobile communication is occupied by extra and extra facilities with information speed from little Kilobits per second reach to numerous Megabits per second. Amain choice in the communication system is the select of the multiple access structures. A selection may be the "Orthogonal Frequency Division Multiple Access" (OFDMA). Even with moreprofitsingreatflowin formation facilities, SCFDMA has bring excessive care as an smart substitution to OFDMA and nowrecommendedinportable uplink communications in fourth generation (4G) "Long Term Evolution" (LTE).in this paper the comparison between these two techniques is done in order to prove the powerful points of using the SCFDMA in LTE under two subcarrier mapping that are localized and interleaved style in dual channel kinds that are ITU and LTE channels. The results demonstrate that the SCFDMA provides the lesser "bit error rate" as compare to OFDMA in all cases of channels. Also the interleaved mode gives lower BER than localized mode.

Keywords: OFDMA, SCFDMA, 4G, LTE, BER, ITU.

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2.

Authors: Hari Hara P Kumar M

Paper Title: Video, Image and Data Compression by using Discrete Anamorphic Stretch Transform

Abstract: we have a compression technology which is used to represent the more information efficiently. This kind of technology will helpful when we dealing the exponential increase of digital data. With the help of by increasing spatial coherency, we have new physics based transform to get the image compression. There is a possibility to improve the JPEG and JPEG 2000 performance by using our new technology and showed by experimentally.

Keywords: Image Compression, Image De-Compression, Discrete Anamorphic transform, Spatial Coherency, JPEG and JPEG2000, Discrete Cosine Transform, Wavelet Transform, Frequency Decomposition

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3.

Authors: **Porag Kalita**

Paper Title: **Best Practices in Engineering College by TQC with Special Reference to North East India**

Abstract: Quality is never an accident, but result of intelligent effort"– John Young. For the rapid growth of population and industries, Total Quality Circle (TQC) has gained importance and being introduce and experimental with in Engineering College in India. In educational institutions, allocation procedure of TQC is complex, as it human beings as input to and output from the system. Students are input and customer too.Quality circle as a means, " It is a small group of teachers in the same work area or doing similar type of work who voluntarily meet regularly for about to identify, analyse and resolve work related problems, not only improve quality of education and total performance of the engineering college Philosophy to contribute to the improvement and development of engineering institutions are consisting by following special references to the N E India.

1) Teachers develop their ability, wisdom and creativity by using their brain.
2) Teachers educate themselves by sharing experienced.
3) Teachers do not work in isolation but act as a them.
4) Display Human capabilities fully.
5) It promotes job involvement and participation etc.

Therefore, Total Quality Circles in tact represent the form of "self control", suggested for higher educational institutions.

Keywords: Ability, job control TQC, Job involvement, wisdom.

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4.

Authors: **Mohanad Abdulkareem Hasan Hasab**

Paper Title: **Digital Topology and Edge Detection as Application**

Abstract: Digital topology refers to the use of topological properties and features that could be extracted from

images defined as digital grid, In this paper we defined the basic and well known concepts of digital topology and how it represents an image as digital array of different dimension with some operations could be used for enhancing and processing the image for different practical purpose , Then producing an algorithm to detect the edges of images that are considered a type of crucial information needed for segmentation and recognition . and also presented a brief study of the fundamental concepts of the edge detection methods.

Keywords: Digital topology ,digital image processing , edge detection

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5.

Authors: **Khurshid Abdul Jabbar**

Paper Title: **Effecting Transformation Towards a Green Computing Infrastructure: A Case Study on Asia Pacific University**

Abstract: Energy consumption and environmental concerns have become organizational priorities as sustainability becomes a business imperative. Within the last decade Green Computing has become a key dimension in IT management owing to the economic opportunities and stakeholder pressure, however, the strategic relevance of Green Computing has largely been neglected as a corporate strategy. This case study on Asia Pacific University aims to deliver a holistic Green Computing Framework for the University. This Framework addresses the key facets of an organization: strategy, technology, infrastructure, operations and administration, as an avenue for the University to assess its Green readiness as it moves towards a Green Computing infrastructure for competitive advantage. The absence of a Green Computing readiness framework is critical for the University to understand the key factors in implementing a sustainable business practice. A sustainable energy-efficient learning centre will account for a healthy environment while maintaining a high standard of educational excellence.

Keywords: Green Computing, Green Readiness, Sustainability

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6.

Authors: **Devikant Baviskar, Balbheem Kamanna, Gauri Tembe, Kajal Juikar**

Paper Title: **Design and Analysis of Polymer PEK Spur Gear under Static Loading Condition using FEA**

Abstract: this work presents the design and Analysis of polymer PEK spur gear and Comparison of results of PEK with Metallic Cast Iron under limited loading conditions. Application of Plastic gear reduces the weight and noise vibration. Analytical Method is used to calculate Tooth load with help of Lewis equation & dynamic tooth load with help of Buckingham equation. Gear profile modeling is done by using SOLIDWORKS 2015. Finite Element Method is used for Static analysis of the gear to find the Von-misses stress on the tooth of the gear using ANSYS and these values are compared with Analytical values.

Keywords: SOLIDWORKS, ANSYS, Lewis and Buckingham Equation, PEK.

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Authors: **S. Santhosh Kumar, Anu R. G**

Paper Title: **Radiating Flare Design of Tapered Slot Loaded Vivaldi Antenna Using Fourier Series Approach**

Abstract: Federal communication commission has allocated a band from 3.1 GHz to 10.6 GHz for ultra wide band (UWB) applications. An antenna designed for UWB applications should be capable of offering a higher bandwidth, with minimum distortion of signals. One such antenna that satisfies this criterion is the Vivaldi antenna. The gain offered by a conventional exponentially tapered Vivaldi prototype is less, particularly at a lower giga hertz of frequencies. As the gain is dependent on the geometry of the radiating flare, an improvement in the gain is achieved by removing the restriction on the geometry of the flare. An antenna designed using Fourier series takes an optimized shape, such that the condition of maximum gain and minimum return loss is achieved corresponding to the design frequency. Antenna performance obtained from the simulation result and hardware prototype measurements shows a good agreement thereby verifying the design concept.

Keywords: Ultra wide band, Vivaldi Antenna, Fourier series, gain, Radiation flare

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8.

Authors: **Esayas Alemayehu, Thamineni Bheema Lingaiah**

Paper Title: **Development of Iron Oxide Coated Sand (IOCS) Adsorbent for Defluoridation Technology**

Abstract: Although safe and reliable water supply is badly needed, the installation of advanced defluoridation plants in regions with low economic resources such as Ethiopia is, at present, very scarce mainly due to operational consideration and settlement characteristics of the people. In such cases the development and popularizing of low cost fluoride removal technologies, which does not demand much money and skilled manpower, is important. Therefore, this study focuses on the removal of fluoride from groundwater by using Iron oxide coated sand (IOCS), which could be used as an alternative defluoridation adsorbent. The influence of design parameters such as contact time, adsorbent dose, solution pH, and initial fluoride concentration was investigated. Basic process characteristics were determined under batch conditions. Fluoride adsorption onto IOCS was strongly pH dependent. The maximum adsorption capacity for IOCS was found to be 136 mg kg-1. This result was obtained at optimized conditions of solution pH (4.0), contact time (8.0 h), dose (15.0 g L-1) and initial fluoride concentration (5.0 mg L-1). The uptake of fluoride slightly increased with increasing equilibrium concentration of fluoride ion in solutions. By increasing the initial concentration of fluoride from 3.0 to 10.0 mg L-1, the adsorption capacity, increased from 90.73 mg kg-1 to 252.17 mg kg-1. IOCS was found to be promising adsorbent for defluoridation technology..

Keywords: Adsorption Technology, Batch Experiments, Defluoridation, IOCS

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9.

Authors: **A. K. Rajak, S. K. Maity, Nagendra Prasad**

Paper Title: **Improvement in Mechanical Properties of Ultra High Strength Steel through Induction Melting and Electroslag Refining**

Abstract: The objective of the present study is to develop the ultrahigh strength steel by induction melting and electroslag refining, which is followed by thermomechanical treatment with yield strength in excess of 1600 MPa and elongation of 9-10% . Ultrahigh strength steels are used in fabrication of rocket motor casings, aircraft undercarriages, turbine motors, pressure vessels and offshore platforms. Some of the currently employed imported steels, like maraging steel is highly alloyed and is expensive . In the first part, the alloys were prepared by induction melting with addition of calculated amount of scrap and ferroalloys. The molten metal was tapped at 16000C and poured in preheated cast iron mould of 48x52x250 mm in dimension. The other alloy is prepared by addition of 0.024% Ti to the base composition. This alloy exhibits better mechanical properties than previous one. In the second part of investigation, Attempts were made to develop steel containing low sulphur and low phosphorous through electroslag refining (ESR) process followed by thermomechanical treatment (TMT). The other alloy was prepared by inoculation of about 0.058% titanium during ESR process. Alloys developed by ESR process resulted in sound ingot

with low inclusions. The ESR ingots were further undergone for thermomechanical treatment (TMT) to convert it into plates. The process consist of pre-rolling of the ESR ingot to a bar at 1200□C, followed by hot rolling in two passes starting from 950□C and finishing at 850□C with equal deformation of 25% in each pass to convert the bar into plates and were immediately cooled in oil. The mechanical properties and some microstructural features were characterized with the specimens prepared from plates. The base alloy displayed UTS of 1792 MPa, yield strength of about 1580 MPa and elongation of 7.6%. Titanium inoculated alloy displayed UTS of 1885 MPa, yield strength of 1700 MPa and elongation of 8.3 %. It can be construed that the mechanical properties of the titanium inoculated alloy were substantially improved compared to base alloy. Optical and SEM microstructures of the TMT specimen's reveals predominantly lath martensites. However, the microstructure of titanium inoculated alloy consisted of small packets of finer lath martensite. Titanium addition reduces the grain size and refines the martensite laths that lead to improvement in mechanical properties.

Keywords: Ultrahigh strength steel, Electroslag refining, Themomechanical treatment, Microstructure, Mechanical properties

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10.

Authors: **Yendrembam Arunkumar Singh, Taiborlang Lyngdoh Ryntathiang, Konjengbam Darunkumar Singh**

Paper Title: **Economic Evaluation of Plastic Filled Concrete Block Pavement**

Abstract: This paper presents economic evaluation of Plastic Cell filled Concrete Block Pavement (PCCBP) over conventional flexible and Concrete pavements for low volume rural roads. The cost comparison has been carried out considering both construction and maintenance cost for a period of 5 years, based on design analysis and performance studies of 100 mm thick PCCBP laid over 100 mm thick WBM sub-base course. It has been observed that the initial construction costs for both flexible and rigid pavement were higher than that of PCCBP by ~9% and~150% respectively and the total cost (including maintenance cost for 5 years) of flexible and rigid pavement are found to be higher by ~43% and~141% respectively as compared to that of PCCBP. Cent percent replacement of river sand in concrete by waste stone dust proved to be cost cutting without significant change in strength of the concrete.

Keywords: ABAQUS, BACKGA, Falling Weight Deflectometer (FWD), KENLAYER, Low volume roads, Plastic Cell Filled Concrete Block Pavement (PCCBP), Stone dust.

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11.

Authors: **Ademola Abdulkareem, Awosope C. O. A., Samuel I., Agbetuyi A. F**

Paper Title: **Contingency Analysis for Assessing Line Losses in Nigeria 330-kV Power lines**

Abstract: Line losses in transmission lines constitute one of the major problems affecting power generation and distribution systems. Losses have been found to affect the overall efficiency of a system. Therefore, to increase the efficiency of any system, losses must be minimized. This paper carried out a comprehensive study and analysis of line losses associated with Nigeria 330-kV power transmission lines. The work includes the power-flow analysis carried out on the existing network using both the Newton-Raphson (N-R)written in code-based MATLAB and the model-based N-R in Power World Simulator (PWS) environment. The power-flow analysis was further subjected to contingency analysis and simulation using the N-R in PWS. Two load-flows were performed to reveal voltage violated buses.The results showed that the bus voltages outside the statutory limit of 0.95 – 1.05p.u(i.e 313.5 – 346.5kV) occurred at buses2-Birnin-Kebbi (0.9183pu), bus 9 Akangba (0.937pu), bus 18-Onitsha (0.935pu), bus 20-New-Haven (0.920pu), bus 25- Kaduna (0.9233pu), bus 26-Kano (0.776pu), bus 22-Jos (0.8192pu) and bus 28-Gombe (0.7247pu) under normal uncompensated condition. Capacitive shunt compensation was applied on these buses and the results recorded appreciable loss reduction (about 18.35%). The result of the single line contingency analysis for uncompensated and compensated indicates a total of 335 and 25 voltage bus violations respectively.

Keywords: Line losses, power line, power-flow analysis, voltage violations, compensation, contingency analysis .

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12.

Authors: **Swetha Ajith Mathew, M. Nazeer**

Paper Title: **Strength and Chemical Durability of PC-Slag-RHA Ternary Blended Concrete Mixes**

Abstract: Concrete is an important and commonly used man made construction material, which can be considered to have better strength and durability characteristics. Nowadays, ternary blended concrete is achieving popularity by overcoming the disadvantages of binary blended concrete. The present work deals with study of fresh properties, strength and durability of ternary blended concrete with Ground Granulated Blast Furnace Slag (GGBS) and Rice Husk Ash (RHA). Concrete mix is designed for strength of 40MPa. The study is limited to ternary blended concrete with 50% replacement of cement with GGBS and remaining 50% of cement is replaced with 5%, 10% and 15% RHA in different mixes. The chloride penetration resistance of the concrete is assessed by rapid chloride permeability test. The observations were critically analysed and the different attributes of the various mixes were correlated with the RHA content in the mix.

Keywords: Ground Granulated Blast Furnace Slag, Rice Husk Ash, ternary blended concrete, strength, durability

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13.	**Authors:**	**Haider Sh Hashim**
	Paper Title:	**Security Text Massage Verification via Steganography and Color Image in Internet of Things Environment**

Abstract: Internet of Things (IoT) technologies allow everyday objects including small devices in sensor networks to be capable of connecting to the Internet. Such an innovative technology can lead to positive changes in human life. However, if there is no proper security mechanism, private and sensitive data around humans can be revealed to the public Internet. In this aspect, this paper examines security issues of the IoT that major challenge is faced by IoT. In particular, we focus on the main challenge in exchanging information among devices in IoT's environment. We have combined the concept of attribute based on steganography and crypto hash function to process data with efficient exchange information between two or more entities in the IoT's environment. The proposed scheme has several important security features such as key agreement, resisting malicious attacks, and a good performance. The experimental results view the efficiency and sturdiness of our proposed scheme.

Keywords: (IoT), IoT's, However, performance, experimental, security, resisting

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19. M. Juneja, P. S. Sandhu,—Improved LSB based Steganography Techniques for Color Images in Spatial Domain, International Journal of Network Security, vol. 16, No.4, pp. 366-367, 2014.

Martensite layer was formed on surface. The result of hardness and recovery tests showed fluctuation of hardness and shape recovery with sintering time. The effect of sintering time on hardness is apposite on shape recovery. In this research artificial neural network was used to predict the behavior of alloy at sintering time between 3 and 7 hrs.

Keywords: powder metallurgy, hardness, shape recovery ,neural network

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17.

Authors: **Bahaa Hussein Taher**

Paper Title: **Driver Fatigue and Distraction Detection System**

Abstract: Driver monitoring system is a real-time system that can detect driver fatigue and distraction using image processing tools. In this paper, an algorithm is introduced for driver fatigue and distraction detection based on the relation between face and eye regions. We used the position of the face as indicator for distraction through tracking the face of the driver in the image taken by camera placed on the front upper mirror while for fatigue the eyes state was used to index sleeping situation ,the eyes state detected by the size and matching templates for opened and closed eyes .The algorithm tested laboratory and using of recorded videos and approved to be efficient in application for estimating the driver fatigue and distraction

Keywords: Driver monitoring system, driver fatigue, distraction detection

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Authors: **Kamalkishor G. Maniyar, Roshan V. Marode, S. B. Chikalthankar**

Paper Title: **Optimization of EDM Process Parameters on MRR & TWR of Tungsten Carbide by Taguchi Method**

Abstract: Electrical discharge machining (EDM) is a process for shaping hard metals and forming deep complex shaped holes by arc erosion in all kinds of electro-conductive materials. The objective of this research is to study the influence of operating parameters current, voltage and pulse on time on material removal rate (MRR) and tool wear rate (TWR) in EDM of Tungsten carbide. The effectiveness of EDM process with tungsten carbide is evaluated in

terms of the material removal rate and tool wear rate produced. It is observed that copper is most suitable for use as the tool electrode in EDM of Tungsten carbide. In this research, trials are conducted on Tungsten carbide to observe the influence of the parameters such current, voltage and pulse on time on output characteristic MRR and TWR. The experiments are conducted by using Taguchi, DOE technique and analysis is confirmed by ANOVA and regression method. This study presented the optimal machining condition which can be used for maximize MRR and minimize TWR. The tests are confirmed by confirmation test and results are validated mathematical analysis.

Keywords: ANOVA analysis, EDM Parameters, Material Removal Rate, Tool Wear Rate, Taguchi Method

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19.

Authors:	**Mohamed Hanaoui, Rachid Aouami, Mounir Rifi**
Paper Title:	**Smart Antenna System for Wireless Sensor Networks to Improve Energy Efficiency**

Abstract: This paper presents the design and implementation of smart antenna system in wireless sensor network severely to minimize the energy consumption due a interference constraints. The integration of in wireless sensor networks is a challenging and very attractive technical solution to improve the system capacity, the quality of service, and the power control. Smart antenna system has the advantage over traditional omnidirectional antennas system), of being able to orientate signals into the desired direction in either transmission node or reception node. In this paper, we create a view of ground with nodes by using MATLAB, then we compare active communication using SAS and active communication using OAS using the static topology. The designed system provides a flexible and low cost solution for us to make in the smart-home and office smarter. The energy efficiency to bring by smart antenna system is described.

Keywords: smart antenna, omnidirectional antenna, wireless sensor network, nodes, energy efficiency.

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20.

Authors:	**Devarshi Chaurasia, Yogesh Garg**

	Paper Title:	**Assessment of Building Architecture Design Parameters by Applying Fuzzy Logic Concepts**	
	Abstract: The field of Building Architecture and Design is considered as multidisciplinary science with a very important dimension as 'Art'. Architecture and design requires more artistic aptitude then engineering. As far as engineering and science are concerned, phenomenological paradigms are sufficient. However, need to explore new approaches as far as Art and Architecture are concerned. In architecture we make perceptions on the bases of knowledge and experience. Recently, Fuzzy Logic has been among new scientific paradigms to assess the architecture and Design quality, which actually differ or vary person to person. The research focuses on scope of application of fuzzy logic concepts and theory on architecture and design quality assessment. Architectural design quality assessment may consider as science with full of soft and flexible variables. In such situations, assessment on the subject in fuzzy logic terms plays the essential role. **Keywords:** smart antenna, omnidirectional antenna, wireless sensor network, nodes, energy efficiency. **References:** 1. Zubkov, A. Quality Control of Building Projekt. Akadeemia tee. 5A(019). 2. Zadeh, L. A., Fuzzy Sets, Information and Control. Vol. 8, pp. 335-353, 1965. 3. Woodcock, C.E. and S. Gopal, Fuzzy set theory and thematic maps: accuracy assessment and area estimation. International Journal of Geographical Information Science, 2000. 14(2): p.153-172. 4. LA, Z., The Concept of a linguistic variable and its application to approximate reasoning. Journal of Infornation Science, 1975. 8(1): p. 199-249. 5. Jang J.S., Sun C.T. and Mizutani E., Fuzzy-Neuro and Soft Computing, Prentice-Hall International, Inc., Upper saddle River, NJ 07458. 6. Clitcioglu ö., Durmisevic S., Fuzzy Logic in Architecture Design. TU Delft, Faculty of Architecture, Building Technology, Berlageweg 1, 2628 CR Delft, Netherlands. 7. www.eusflat.org/proceedings/EUSFLAT_2001/.../265_Ciftcioglu.pdf 8. Bansal. Sunita, Biswas. Srijit, Singh S.K., Selection of most economical Green Building out of n-Alternatives: Approach of Vague Fuzzy Logic, International Journal of Engineering and Technology, Vol.-4 No.-2 pp 164-168, Feb.2015 9. http://esatjournals.org/Volumes/IJRET/2015V04/I02/IJRET20150402020.pdf. 10. Jang J-SW.R., at al., Neuro-fuzzy and Soft Computing: A Computational Approach to Learning Maching Intelligence. Prentice Hall, 1996. 11. Fuzzy Control Programming. Technical Report, International Electronical Commision, 1997. 12. http://cs.bilkent.edu.tr/~zeynep/files/short_fuzzy_logic_tutorial.pdf 13. J. Mendel., Fuzzy Logic system for engineering: A Tutorial. Proceeding of the IEEE, 83(3): 345-377, March 1995. http://cs.bilkent.edu.tr/~zeynep/files/short_fuzzy_logic_tutorial.pdf 14. Bansal. Sunita, Biswas. Srijit, Singh S.K., Approach of Fuzzy Logic for Evaluation of Green Building Rating System, International Journal of Innovative Research in Advance Engineering, Issue-3, Vol.-2 March 2015 http://www.ijirae.com/volumes/Vol2/iss3/08. MRCE10080.pdf	**122-127**
21.	**Authors:**	**Sabah Khan**	
	Paper Title:	**Analysis of Wear Rate and Tribological Behavior of Aluminum Cast Alloy A356 and Granite Composite at Different Speeds**	
	Abstract: Most of the machine elements have surface contacts with friction between them. The presence friction tends to wear off the surface leading to failure of the machinery. In today's world almost all material scientists are striving to develop materials with low wear rate to improve the life expectancy and performance efficiency of the components. In this paper, I have carried out a comparative analysis of the effect of presence of reinforcing granite particles on A356/LM25 cast alloy of aluminum. The wear rates of both the alloy and composite are analyzed at different speeds and pressures. The results are used to analyze the tribological behavior, of the alloy and the composite. **Keywords:** Granite, LM 25, Tribology, Wear rate . **References:** 1. N.Axen, I.M. Hutchings and S. Jacobson, "A Model for the friction of multiphase materials in abrasion",Tribology International Vol.29, No.6. pp467-475,1996. 2. Krutz, Schueller, Claar, "Machine Design for Mobile and Industrial applications",SAE International, 1999, pp25,26. 3. Brady, GS., H.R. Clauser and JA Vaccari " Materials Handbook" 14th ed., McGraw-Hill, NY, 1996. 4. Krishan K. Chawla "Composite materials : science and engineering". New York : Springer-Verlag, c1987.WALTER TA418.9 .C6 C43 1987 5. Mel Schwartz,"Composite materials", Upper Saddle River, N.J. : Prentice Hall PTR, c1997.WALTER TA418.9 .C6 S37 1997 6. R.K Dogra , A.K Sharma " Advances in Material Science", S. K. Kataria and Sons.pp 389-394. 7. Engineered materials handbook, v. 1. Composites / Handbook Committee Metals Park, Ohio : ASM International, c1987 WALTER Quarto TA403 .E497 1987 8. Bharat Bhushan, "Principles and Applications of Tribology", John-Wiley & Sons, 1999. 9. Elwin L. Rooy, "Aluminium and Aluminium alloys", Aluminium Company of America, 2002. 10. S. Nafisi, D. Emadi, M.T. Shehata and R. Ghomashchi, Effects of electromagnetic stirring and superheat on the microstructural characteristics of Al-Si-Fe alloy, Materials Science and Engineering A, 432, 71-83, 2006. 11. Stowe R L, "Strength and deformation properties of granite, basalt, limestone and tuff at various loading rates", sponsored by Defence Atomic Support Agency, 1969. 12. Sabah Khan, "Effect of Sliding Surface Temperature on the Sliding Wear Behavior of Natural Mineral Reinforced Aluminium Alloy Composite", International Journal of Scientific Research, Vol 4, Issue 3, March, 2015. 13. Radhika, R. Subramanian , S. Venkat Prasat, "Tribological Behaviour of Aluminium/Alumina/Graphite Hybrid Metal Matrix Composite Using Taguchi's Techniques", JMMCE, Vol. 10, No.5, pp.427-443, 2011. 14. Sabah Khan, "Analysis of Tribological Applications of Functionally Graded Materials in Mobility Engineering", International Journal of Scientific and Engineering Research, March 2015, pp 1150- 1160. 15. Zeeshan Ahmad, Sabah Khan, "Evaluation of Effective Thermal Properties of Aluminum Metal Matrix Composites Reinforced by Ceramic Particles", IJCET, Volume 5, No4. July- August, 2015. Pp2884-2897.	**128-131**
22.	**Authors:**	**Swapna P. S, Susan R. J, Sakuntala S. Pillai**	

	Paper Title:	**Analysis of Spectral Efficiency in OFDMA Fem to Cell Networks**	
	Abstract: Orthogonal Frequency Division Multiple Access (OFDMA) is a promising multiple access technique for next generation wireless communication such as WiMAX, LTE, IMT-A etc because of its high spectral efficiency and inherent robustness against frequency selective fading. Recently fem to cell has been proposed for indoor coverage extension and to reduce traffic within macrocells. Fem to cells are deployed in an ad-hoc manner by different consumers in the same frequency band, causing interference with each other. To fully realize the potential of these networks, it is necessary to allocate resources to them in such a way that interference is mitigated. This work aims to improve the performance of uplink OFDMA fem to cell networks by joint subchannel and power allocation. Joint subchannel and power allocation using Hungarian and water filling algorithm performs better than the existing fem to cell resource allocation algorithms with respect to spectral efficiency. **Keywords:** Orthogonal Frequency Division Multiple Access (OFDMA); femtocell; resource allocation; subchannel allocation; power allocation. **References:** 1. Lee, Hyuntai Kim, Jinhyun Park, and Jitae Shin, " An Efficient Resource Allocation in OFDMA Fem to cell Networks", IEEE 72nd Vehicular Technology Conference Fall (VTC 2010-Fall), 2010. 2. G. Li and H. Liu, "Downlink radio resource allocation for multi-cell OFDMA system," IEEE Trans. Wireless Commun., vol. 5, no. 12, pp. 3451–3459, Dec. 2006. 3. L. Garcia, K. Pedersen, and P. Mogensen, "Autonomous component carrier selection: Interference management in local area environments for lte-advanced," IEEE Communications Magazine., 2009. 4. R. Madan, J. Borran, A. Sampath, N. Bhushan, A. Khandekar, and T. Ji, "Cell association and interference coordination in heterogeneous LTE-A cellular networks," IEEE Journal on Selected Areas in Communications., 2010. 5. R. Chang, Z. Tao, and C.-C. Zhang, J.and Kuo, "A graph approach to dynamic fractional frequency reuse (ffr) in multi-cell ofdma networks," in IEEE ICC, 2009. 6. David Lopez, Akos Ladanyi, Alpar Juttner and Jie Zhang, "OFDMA femtocells: A Self Organizing approach for frequency assignment" IEEE 20th International Symposium on Personal, Indoor and Mobile Radio Communications, 2009. 7. K. Sundaresan, S. Rangarajan, " Efficient Resource Management in OFDMA Femto Cells," Proceedings of the tenth ACM international symposium on Mobile ad hoc networking and computing, May. 2009. 8. Hojoong Kwon and Byeong Gi Lee," Distributed Resource Allocation through Noncooperative Game Approach in Multi-cell OFDMA Systems," IEEE conference publications,2006. 9. L. Giupponi and C. Ibars, "Distributed interference control in OFDMAbased femtocells," in Proc. 2010 IEEE Int. Symp. on Personal, Indoor and Mobile Radio Commun., pp. 1201–1206. 10. Stephen Schedler and volker Kuhn, "Resource allocation for the multiple access relay channels and OFDMA," EURASIP Journal on Advances in Signal Processing 2013. 11. Qilin Qi, Andrew Minturn, and Yaoqing (Lamar) Yang, "An Efficient Water-Filling Algorithm for Power Allocation in OFDM-Based Cognitive Radio Systems", 2012 International Conference on Systems and Informatics (ICSAI 2012). 12. R. Jain, A. Durresi, and G. Babic, "Throughput fairness index: Anexplanation," ATM Forum Document Number: ATM Forum/990045, Feb. 1999. 13. Vu Nguyen Ha and Long Bao Le, "Fair resource Allocation for OFDMA Fem to cell Networks with Macro cellProtection", IEEE Transactions On Vehicular Technology, Vol. 63, No. 3, March 2014. 14. Prabhu Chandhar, Suvra Sekhar Das," Analysis of Area Spectral Efficiency for Co-Channel Deployed Macrocell-Fem to cell OFDMA Networks", wireless communications symposium IEEE ICC, 2013.	**132-135**
23.	**Authors:**	**Faisal Ahmad**	
	Paper Title:	**Comparative Analysis of Sediment Removal Efficiency Parameters of Settling Basin**	
	Abstract: The mechanism of flow in settling basin is so complicated that it is very difficult to establish a general regression model to accurately estimate the sediment removal efficiency. No general relationship is available which can be used for estimation of sediment removal efficiency of settling basin under flushing condition as well as without flushing condition. Even in the absence of flushing, considerable differences exist in efficiencies given by different methods. The present study aims to re-analyze the databases to develop a general regression model for the determination of sediment removal efficiency of settling basin. The equation for sediment removal efficiency of settling basin given by Ranga Raju et al. (1999) has been checked and it was observed that the Ranga Raju et al. (1999) predictor does not give the reasonable estimate of sediment removal efficiency of settling basin. Therefore, the data have been re-analyzed and a new equation is developed which is recommended in order to predict the sediment removal efficiency of settling basin. The qualitative performance of present predictor indicated that it has lowest AAD,RMSE,APE and highest R as compared to Ranga Raju et al. (1999) predictor. **Keywords:** settling basin, sediment removal efficiency, regression model, R **References:** 1. Atkinson, E. (1992). "The design of sluiced settling basins—A numerical approach." Rep. No. OD 124, Overseas Development Unit, HR Wallingford, U.K. 2. Camp, T. R. (1946). "Sedimentation and the design of settling tanks." Trans., ASCE, 3, 895-958. 3. Dobbins, W.E. (1944). "Effect of turbulence on sedimentation." Trans. ASCE, 109, 629-653. 4. Garde, R. J., Ranga Raju, K. G., and Sujudi, A. W. R. (1990). "Design of settling basins." J. Hydraul. Res., 28(1), 81–91. 5. Jain, A. K. (2009). "Fluid mechanics including hydraulic machines." Tenth edition, Khanna publishers, New Delhi. 6. Kerssens, P. J. M.,Prins, A., and Van Rijn, L. C. (1979). "Model for suspended sediment transport." J. Hydr. Div., 105(5), 461–471. 7. Ranga Raju, K. G., Kothyari, U. C., Srivastav, S., and Saxena, M.(1999). "Sediment removal efficiency of settling basins." J. Irrig. Drain. Eng., 125(5), 308–314. 8. Saxena, M. (1996). ''Effect of flushing on efficiency of settling basins,'' ME thesis, Dept. of Civil Engineering, Univ. of Roorkee, Roorkee (U.P.), India. 9. Schrimpf,W. (1991). "Discussion of'Design of settling basins,' by R. J. Garde, K.G. Ranga Raju, and A.W.R. Sujudi." J. Hydraul. Res., 29(1), 136-142. 10. Singh, K.K. (1987). "Experimental study of settling basins." ME thesis, Dept. of Civil Engineering, Univ. of Roorkee, Roorkee (U.P.), India. 11. Singh, K. K., Pal, M., Ojha, C. S. P., and Singh, V. P. (2008). "Estimation of removal efficiency for settling basins using neural networks and	**136-140**

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24.

Authors: **Reshmalakshmi C, Sasikumar M**

Paper Title: **Fuzzy Rule Based Color Space**

Abstract: Color prediction is still a critical issue in computer vision and image processing. It is necessary to ensure that the perceived color of object remains constant under varying illumination conditions. Novelty of this paper lies in introduction of new color space called linguistic color space designed using fuzzy system for better color constancy. In addition, mapping from RGB to linguistic space retains the precision and accuracy. While evaluating the algorithm, it is clear that the color components are preserved effectively and accurately with the help of combination of different types of membership functions. Inference rules with membership functions results intuitive and efficient color space.

Keywords: Color Space, Fuzzy inference, linguistic variable, membership functions.

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25.

Authors: **Juan Ochoa Aldeán, Edison D. Troya Chanta**

Paper Title: **A Method for Identification of White Spaces in the VHF/UHF Band for the Future Deployment of Cognitive Radio Networks in the City of Loja**

Abstract: This project aims to carry out the identification of White Spaces within the VHF / UHF, corresponding to the range of frequencies ranging from 54 to 686 MHz, for possible use in cognitive radio systems bands. The methodology consisted of a spectrum monitoring performed in order to know their spectral occupancy in six parishes of the City of Loja. For that, a spectrum analyzer system was used, in order to evaluate the implementation Cognitive Radio Networks (CRN's).

Keywords: Spectrum, Wireless Communication, Cognitive Radio, White Spaces, National Frequency Plan.

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26.

Authors: **R. Abd Allah**

Paper Title: **Unbalance Current Detection for Synchronous Generator Using Alienation Concept**

Abstract: In modern digital power protection systems, statistical coefficients technique is recently used for fault analysis. An alienation technique is developed for protecting synchronous generators against unbalance currents conditions. The proposed technique is able to accurately identify the conditions of unbalance phase(s) currents involved in all different types of shunt faults that may locate on stator windings of synchronous generator. Case studies are processed under different loading levels, fault resistances and fault inception angles. It does not need any

extra equipment as it depends only on the three-line currents measurements which are mostly available at the relay location. This technique is able to detect the unbalance current conditions, in about a one-cycle period. Thus, the alienation technique is well suited for implementation in digital protection schemes. The proposed methodology is applied for El-kuriemat power station unit that produces 320 MVA and a part of 500 KV Egyptian network. Alternative transient program (ATP) and MATLAB programs are used to implement the proposed technique.

Keywords: Generator protection, unbalance currents, alienation coefficient, internal and external fault..

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27.

Authors: **Baydaa Hussain Maula**

Paper Title: **Generation of p-y curves based on Decomposition Method for Pore Water Pressure**

Abstract: To highlight the importance and strengthen the prominent role of a pore pressure generation on p-y behavior under different vital parameters a numerical study will be conducted depending on previous research of shaking table tests. Accordingly, we recognize that the relationship and the mechanism of the dynamic factors is not easy to predict and explain. Estimating lateral resistance and displacement's demands on a soil-pile-structure in a liquefiable ground required an accurate measurements for PWP along the quake period. The decomposition method results explain the mechanical effect of PWP generation with time intervals on pile lateral deformation for cases the presence of a single pile or with a group.

Keywords: Pile group foundation, Sand blow, OpenSeesPL, Generation of p-y, decomposition method.

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