Volume 1 Issue 3, February 2013

International Journal of Innovative Science and Modern Engineering

ISSN : 2319 - 6386 (Online)
Website: www.ijisme.org

Blue Eyes Intelligence Engineering & Sciences Publication Pvt. Ltd.
Exploring Innovation: A Key for Dedicated Services

Address:
22, First Floor, ShivLoke Phase-IV,
Khajuri Kala, BHEL-Piplani, Bhopal (M.P.)-462021, India
Website: www.blueeyesintelligence.org
Email: director@blueeyesintelligence.org, blueeyes@gmail.com
Cell #: +91-9669981618, **WhatsApp #:** +91-9669981618, **Viber #:** +91-9669981618
Skype #: beiesp, **Twitter #:** beiesp

Technical Advisory Board

S. No	Volume-1 Issue-3, February 2013, ISSN: 2319–6386 (Online) Published By: Blue Eyes Intelligence Engineering & Sciences Publication Pvt. Ltd.	Page No.

1.

Authors: Karthik Korvi, Jisha Bhubesh, R.Shirisha

Paper Title: Power Quality Enhancement by Using Distributed Power-Flow Controller in Distribution Systems

Abstract: This paper presents a new component within the flexible ac-transmission system (FACTS) family, called distributed power-flow controller (DPFC). The DPFC is derived from the unified power-flow controller (UPFC). The DPFC can be considered as a UPFC with an eliminated common dc link. The active power exchange between the shunt and series converters, which is through the common dc link in the UPFC, is now through the transmission lines at the third-harmonic frequency. The DPFC employs the distributed FACTS (D-FACTS) concept, which is to use multiple small-size single-phase converters instead of the one large-size three-phase series converter in the UPFC. The large number of series converters provides redundancy, thereby increasing the system reliability. As the D-FACTS converters are single-phase and floating with respect to the ground, there is no high-voltage isolation required between the phases. Accordingly, the cost of the DPFC system is lower than the UPFC. The DPFC has the same control capability as the UPFC, which comprises the adjustment of the line impedance, the transmission angle, and the bus voltage. The principle and analysis of the DPFC are presented in this paper and the corresponding experimental results that are carried out on a scaled prototype are also shown.

Keywords: AC–DC power conversion, load flow control, power electronics, power semiconductor devices, power system control, power-transmission control.

References:

1. Y.-H. Song and A. Johns, Flexible ac Transmission Systems (FACTS) (IEE Power and Energy Series), vol. 30. London, U.K.: Institution of Electrical Engineers, 1999.
2. N. G. Hingorani and L. Gyugyi, Understanding FACTS : Concepts and Technology of Flexible AC Transmission Systems. New York: IEEE Press, 2000. 2572 IEEE TRANSACTIONS ON POWER ELECTRONICS, VOL. 25, NO. 10, OCTOBER 2010
3. L.Gyugyi, C.D. Schauder, S. L.Williams, T. R. Rietman,D. R. Torgerson, andA. Edris, "The unified power flowcontroller:Anewapproach to power transmission control," IEEE Trans. Power Del., vol. 10, no. 2, pp. 1085– 1097, Apr. 1995.
4. A.-A. Edris, "Proposed terms and definitions for flexible ac transmission system (facts)," IEEE Trans. Power Del., vol. 12, no. 4, pp. 1848–1853, Oct. 1997.
5. K. K. Sen, "Sssc-static synchronous series compensator: Theory, modeling, and application," IEEE Trans. Power Del., vol. 13, no. 1, pp. 241–246, Jan. 1998.
6. M. D. Deepak, E. B. William, S. S. Robert, K. Bill, W. G. Randal, T. B. Dale, R. I. Michael, and S. G. Ian, "A distributed static series compensator system for realizing active power flow control on existing power lines," IEEE Trans. Power Del., vol. 22, no. 1, pp. 642–649, Jan.2007.
7. D. Divan and H. Johal, "Distributed facts—A new concept for realizing grid power flow control," in Proc. IEEE 36th Power Electron. Spec. Conf. (PESC), 2005, pp. 8–14.
8. Y. Zhihui, S.W. H. de Haan, and B. Ferreira, "Utilizing distributed power flow controller (dpfc) for power oscillation damping," in Proc. IEEE Power Energy Soc. Gen. Meet. (PES), 2009, pp. 1–5.
9. Y. Zhihui, S. W. H. de Haan, and B. Ferreira, "Dpfc control during shunt converter failure," in Proc. IEEE Energy Convers. Congr. Expo. (ECCE), 2009, pp. 2727–2732.
10. Y. Sozer and D. A. Torrey, "Modeling and control of utility interactive inverters," IEEE Trans. Power Electron., vol. 24, no. 11, pp. 2475–2483, Nov. 2009.
11. L. Huber, B. T. Irving, and M. M. Jovanovic, "Review and stability analysis of pll-based interleaving control of dcm/ccm boundary boost pfc converters," IEEE Trans. Power Electron., vol. 24, no. 8, pp. 1992–1999, Aug. 2009.
12. M. Mohaddes, A. M. Gole, and S. Elez, "Steady state frequency response of statcom," IEEE Trans. Power Del., vol. 16, no. 1, pp. 18–23, Jan. 2001.
13. N. Mohan, T. M. Undeland, and W. P. Robbins, Power Electronics : Converters Applications, and Design, 3rd ed. Hoboken, NJ: Wiley, 2003.

1-8

2.

Authors: John Major J, Shajin Prince

Paper Title: Perspective Study on Recoverable Concealed Data Aggregation in WSNs

Abstract: In Wireless Sensor Networks, Traditional Aggregation Schemes were used to aggregate the ciphertext without decryption. Since it causes problems such as aggregation constraint and failure of data integrity, a new technique called Recoverable Concealed Data Aggregation was introduced. Here in this scheme, the base station can recover all the sensing data even these data has been aggregated. Such a property is called as 'recoverable'. Also it suits well for both homogeneous and heterogeneous wireless sensor networks. In this paper, a comprehensive overview of all the supportive aggregation mechanisms was discussed briefly.

Keywords: Data aggregation, wireless sensor networks, privacy homomorphism encryption.

References:

1. R. Rajagopalan and P. Varshney, "Data Aggregation Techniques in Sensor Networks: A Survey," IEEE Comm. Surveys Tutorials, vol. 8, no. 4, pp. 48-63, Oct.-Nov. 2006.
2. S. Madden, M.J. Franklin, J.M. Hellerstein, and W. Hong, "TAG: A Tiny Aggregation Service for Ad-Hoc Sensor Networks," Proc. Fifth Symp. Operating Systems Design and Implementation, 2002
3. J.-Y. Chen, G. Pandurangan, and D. Xu, "Robust Computation of Aggregates in Wireless Sensor Networks: Distributed Randomized Algorithms and Analysis," IEEE Trans. Parallel Distributed Systems, vol. 17, no. 9, pp. 987-1000, Sept.

9-13

2006.
4. H. C¸ am, S. O ¨ zdemir, P. Nair, D. Muthuavinashiappan, and H. Ozgur Sanli, "Energy-Efficient Secure Pattern Based Data Aggregation for Wireless Sensor Networks," J. Computer Comm., vol. 29, pp. 446-455, 2006.
5. H. Sanli, S. Ozdemir, and H. Cam, "SRDA: Secure Reference- Based Data Aggregation Protocol for Wireless Sensor Networks," Proc. IEEE 60th Int'l Conf. Vehicular Technology (VTC '04-Fall),vol. 7, pp. 4650-4654, Sept. 2004.
6. D. Westhoff, J. Girao, and M. Acharya, "Concealed Data Aggregation for Reverse Multicast Traffic in Sensor Networks: Encryption, Key Distribution, and Routing Adaptation," IEEE Trans. Mobile Computing, vol. 5, no. 10, pp. 1417-1431, Oct. 2006.
7. C. Castelluccia, E. Mykletun, and G. Tsudik, "Efficient Aggregation of Encrypted Data in Wireless Sensor Networks," Proc. Second Ann. Int'l Conf. Mobile and Ubiquitous Systems, pp. 109-117, July 2005.
8. E. Mykletun, J. Girao, and D. Westhoff, "Public Key Based Cryptoschemes for Data Concealment in Wireless Sensor Networks," Proc. IEEE Int'l Conf. Comm., vol. 5, pp. 2288-2295, June 2006.
9. H. Chan, A. Perrig, and D. Song, "Secure Hierarchical In-Network Aggregation in Sensor Networks," Proc. ACM 13th Conf. Computer and Comm. Security, pp. 278-287, 2006.
10. Y. Yang, X. Wang, S. Zhu, and G. Cao, "SDAP: A Secure Hop-by-Hop Data Aggregation Protocol for Sensor Networks," ACM Trans. Information and System Security (TISSEC), vol. 11, no. 4,pp. 1-43, 2008.
11. D. Boneh, C. Gentry, B. Lynn, and H. Shacham, "Aggregate and Verifiably Encrypted Signatures from Bilinear Maps," Proc. 22nd Int'l Conf. Theory and Applications of Cryptographic Techniques (Eurocrypt), pp. 416-432, 2003.
12. S. Ozdemir, "Concealed Data Aggregation in Heterogeneous Sensor Networks Using Privacy Homomorphism," Proc. IEEE Int'l Conf. Pervasive Services, pp. 165-168, July 2007.
13. Chien-Ming Chen, Yue-Hsun Lin, Ya-Ching Lin, and Hung-Min Sun "RCDA: Recoverable Concealed Data Aggregation for Data Integrity in Wireless Sensor Networks" IEEE transactions on parallel and distributed computing, VOL. 23, NO. 4, APRIL 2012

3.

Authors: **Mohammed Sarvar Rasheed**

Paper Title: **Comparison of Micro-Holes Produced By Micro-EDM with Laser Machining**

Abstract: In the MEMS and micro machining worlds, micro-hole making is among the most frequently performed operations. There are many machining processes such as electro-discharge machining (EDM), laser beam machining (LBM), electro-chemical machining (ECM) and ultrasonic machining (USM) etc., used for creating micro-holes. But each machining process has its advantages and disadvantages depending upon the hole diameter, aspect ratio and material used. In this research paper, micro-holes were produced using the laser machining process and these micro-holes were compared with micro-holes produced by micro-EDM. The comparison is done for MRR, dimensional accuracy (including diameter at the entrance and exit, overcut, taper angle and circularity) and surface topography of micro-holes.

Keywords: Micro-holes, micro-EDM, LBM.

References:

1. T. Masuzawa, "State of the Art of Micromachining," Annals of the CIRP, Vol. 49 (2), 2000, pp. 473-488.
2. T. Masuzawa, C. L. Kuo and M. Fujino "A combined electrical machining process for micro nozzle fabrication", Annals of CIRP, Vol. 43 (1), 1994, pp. 189-192.
3. L. Kuo and T. Masuzawa "A micro-pipe fabrication process", Proc. IEEE MEMS' 91, 1991, pp. 80-85.
4. B. H. Yan, F. Y. Huang, H. M. Chow, J. Y. Tsai "Micro-hole machining of carbide by electric discharge machining", Journal of Materials Processing Technology 87, 1999, pp. 139–145.
5. M.P. Jahan, Y.S. Wong and Rahman, "A study on the fine-finish die-sinking micro-EDM of tungsten carbide using different electrode materials", J. Mater. Process. Technol. Vol. 209, 2009, pp. 3956-396.
6. M.S. Rasheed, A.M. Al-Ahmari, A.M. El-Tamimi and M.H. Abidi, " Analysis of influence of micro-EDM parameters on MRR, TWR and Ra in machining Ni-Ti shape memory alloy", Int. J. of recent technology and engg. Vol. 1 (4), 2012, pp. 32-37.
7. S. Bandyopadhyay J.K.S. Sundar, G. Sundarrajan and S.V. Joshi, "Geometrical features and metallurgical characteristics of Nd, pp. YAG laser drilled holes in thick IN718 and Ti-6Al-4V sheets", J. mater. Process. Technol. Vol. 127, 2005, pp. 83-95.
8. D.K.Y. Low, L. Li and P.J. byrd, "Spatter prevention during the laser drilling of selected aerospace material systems", J. mater. Process. Technol. Vol. 139, 2003, pp. 71-76.
9. J. Meijer, "Laser beam machining (LBM), "state of the art and new opportunities," Journal of Materials Processing Technology 149, 2004, pp. 2–17.
10. K.T. Voisey, C.F. Cheng and T.W. Clyne, "Quantification of melt ejection phenomena during laser drilling", material research society, vol. 617, 2000, pp. J5.6.1-J5.6.7.
11. B.T. Rao, H. Kumar and A.K. Nath, "Inert gas cutting of titanium sheet pulsed mode CO2 cutting", Optics and Laser Technology, Vol. 37, 2005, pp. 348-356.
12. D.T. Pham, S.S. Dimov, P.V. Petkov, T. Dobrev, "Laser milling as a 'rapid' micro manufacturing process", Proceedings of the I MECH E Part B. Journal of Engineering Manufacture, Vol. 218 (1), 2004, pp. 1–7.
13. Lv. Shanjin, Yang, W., "An investigation of pulsed laser cutting of titanium alloy sheets," Optics and Lasers in Engineering 44, 2006, pp. 1067–1077.
14. L. Li, C. Driver, J. Atkinson, R.G. Wagner and H.J. Helml, "Sequential laser and EDM micro-drilling for next generation fuel injection nozzle manufacture, Ann. of CIRP, Vol. 55 (1), 2006, pp. 179-182.

14-18

Authors: **Suresh Pandian V, Arjun Kumar C. R, Karpagarajesh G**

Paper Title: **To Analyze the Performance of Optical Burst Switched Networks for Energy Savings**

Abstract: In this paper we propose a multi-path selection approach to minimize the energy consumption of the optical core network, especially OBS. The wavelength routed paths may have to forgo minimum distance paths and choose a path which is at a larger distance. This tends to degrade the QoS like BER and delay. Given the service requirement conditions, we propose to select the paths such that the overall energy consumed by the optical network decreases and at the same time maintain the service threshold conditions. By using an efficient optical control management mechanism, network nodes (WRN) can be set to ON or OFF states. We have developed a simple mathematical model which is used for the calculation of blocking probability of an OBS network.

4.

Keywords: Anycast, OBS network, BER, Protocols.

References:

1. Andrea Detti, M. Listanti and V. Eramo, "Performance Evaluation of a New Technique for IP Support in a WDM Optical Network: Optical Composite Burst Switching (OCBS)"
2. A. A. M. Saleh and J. M. Simmons, "Evolution toward the nextgeneration core optical network," vol. 24, no. 9, pp. 3303–3321,Journal of Lightwave Technology, February -2002 ,
3. G. Balagangadhar, M. Bathula, Jaafar, H. Elmirghani "Green Networks: Energy Efficient Design for Optical Networks".
4. G. Balagangadhar, Jaafar, M. Mohammed Alresheedi, H. Elmirghan, M. Bathula, "Energy Efficient Architectures for Optical Networks" London Communications Symposium-2009.
5. G. Balagangadhar, M. Bathula, Jaafar, H. Elmirghani , "Providing QoS for Anycasting over Optical Burst Switched Grid Networks"
6. M. Gupta and S. Singh, "Greening of internet," in Proc. Conference on applications, architectures, technologies, and protocols for computer communications (SIGCOMM '03), Karlsruhe, Germany, Aug, 2003, pp. 19–26
7. Optical Burst Switching, A tutorial from E-photon/One The VD1 OBS taskforce.
8. R. S. Tucker and et.la, "Evolution of WDM optical IP networks: A cost and energy perspiciuty," vol. 27, no. 3, Journal of Lightwave Technology, pp. 243–252, 2009.
9. Reza Nejabati, "Optical Burst Switched Networks (GOBS)", April 15, 2008, University of EssGrid.
10. WeiWei*, Qingji Zeng, "Optical switch fabric design for Gigabit Switching Router"R&D Center for Broadband Optical Networking Technology, Shanghai 200030,China.
11. "Constraint based anycasting over optical burst switched (OBS) networks," to appear in IEEE/OSA Journal of Optical Communication and Networks, vol. 9, no. 2, 2009.
12. B. Ramamurthy, D. Datta, H. Feng, J. P. Heritage, and B. Mukherjee, "Impact of transmission impairments on the teletraffic performance of wavelength-routed optical networks," IEEE/LEOS Journal of LightwaveTechnology, vol. 17, no. 10, pp. 1713–1723, 1999.

19-23

5.

Authors: **Pritesh Vora, Bhavesh Oza**

Paper Title: **A Survey on K-mean Clustering and Particle Swarm Optimization**

Abstract: In Data Mining, Clustering is an important research topic and wide range of unsupervised classification application. Clustering is technique which divides a data into meaningful groups. K-mean is one of the popular clustering algorithms. K-mean clustering is widely used to minimize squared distance between features values of two points reside in the same cluster. Particle swarm optimization is an evolutionary computation technique which finds optimum solution in many applications. Using the PSO optimized clustering results in the components, in order to get a more precise clustering efficiency. In this paper, we present the comparison of K-mean clustering and the Particle swarm optimization.

Keywords: Clustering, K-mean Clustering, Particle Swarm Optimization.

References:

1. A. Jain, M. Murty and P. Flynn, "Data Clustering: A Review", ACM Computing Surveys, Vol.31, No. 3, Sep 1999, pp. 264–323.
2. H. M. Feng, C.Y. chen and F. Ye, "Evolutionay fuzzy particle swarm optimization vector quantization learning scheme in image compression", Expert Systems with Applications. Vol. 32, No. 1, 2007, pp. 213-222.
3. Jinxin D. And Minyong Q., "A new Algorithm for clustering based on particle swarm optimization and k-Means", International Conference Intelligence, 2009,pp 264-268.
4. Shalove Agarwal, Shashank Yadav and Kanchan Singh, "K-mean versus k-mean++ clustering Techniques", in IEEE 2012
5. Juntao Wang and Xiaolong Su, "An improved k-mean clustering algorithm", in IEEE, 2011, pp 44-46.
6. R. Eberhart and J. Kennedy, " Particle swarm optimization", Proc. of the IEEE Int. Conf. on Neurad l Networks, Piscataway, NJ., 1995, pp. 1942–1948.
7. Garbriela derban and Grigoreta sofia moldovan, "A comparison of clustering techniques in aspect mining", Studia University, Vol LI, Number1, 2006, pp 69-78.
8. Qinghai B., "The Analysis of Particle Swarm Optimization Algorithm", in CCSE, February 2010, vol.3.

24-26

6.

Authors: **Rupali Mahajan, Rupali Jagtap**

Paper Title: **Energy Efficient Routing Protocols for Mobile Ad-Hoc Networks**

Abstract: Ad hoc on demand distance vector routing protocol is specially designed for mobile ad hoc networks with reduced overhead using Expanding Ring Search technique. But energy consumption should also be considered in MANET due to battery constrain of the nodes. In this paper, we propose an energy efficient route discovery process for AODV based on ERS. Our approach saves energy of the nodes by avoiding the redundant rebroadcasting of the route request packets. The relaying status of the node is decided based on the broadcasting of its RREQ packets by its neighbors. And it helps in reducing routing overhead incurred during the route discovery process. Simulations are performed to study the performance of Energy Efficient AODV (E2AODV) protocol using GloMoSim, the Global Mobile Simulator. This E2AODV reduces energy consumption by75-85% compared to AODV. It also reduces routing overhead of around 65-75% and there by reduces 60-70% collisions.

Keywords: Mobile Ad-hoc Networks, Ad-hoc On-Demand Distance Vector Routing Protocol, Expanding Ring Search, Energy consumption.

References:

1. D.P.Agarwal and Q-A Zeng, Introduction to Wireless and Mobile Systems, Brooks / Cole Publishing, ISBN No. 0534-40851-6,436 pages,2003.
2. Padmini Misra, Routing Protocols for Ad Hoc Mobile Wireless Networks, http://www.cse.wustl.edu/~jain/cis788-99 /ftp/adhoc_routing.
3. Elizabeth M.Royer and C.K.Toh,"A Review of current Routing Protocol for Ad-Hoc Mobile Wireless Networks ", 2003.

27-31

4. C.E.Perkins, "AdHoc Networking", Addison-Wesley Publication, Singapore, 2001.
5. Woonkang Heo and Minseok Oh, "Performance of Expanding Ring Search Scheme in AODV Routing Algorithm", Second International Conference on Future Generation Communication and Networking, pp : 128-132, China, 2008.
6. GloMoSimUserManual,http://pcl.cs.ucla.edu/projects/glomosim
7. D.N.Pham and H.Choo, "Energy Efficient Ring Search for Route Discovery in MANETs" ,IEEE International Conference of Communication, Turkey, 2008.
8. D.N.Pham,V.D.Nguyen, V.T.Pham, N.T.Nguyen, X.BacD, T.D.Nguyen,C.Kuperschmidt and T.Kaiser, "An Expending Ring Search Algorithm For Mobile Adhoc Networks", International Conference on Advanced Technologies for communication,Vietnam, 2010

7.	**Authors:**	**G. Ravindra Naik, D. Bhavani, T. Harikrishna Prasad**
	Paper Title:	**Buck–Boost-Type Unity Power Factor Rectifier with Extended Voltage Conversion Ratio**

Abstract: A buck–boost-type unity power factor rectifier is pro- posed in this paper. The main advantage of the proposed rectifier over the conventional buck–boost type is that it can perform input power factor correction (PFC) over a wider voltage conversion range. With a single switch, a fast well-regulated output voltage is achieved with a zero-current switch at turn-on. Moreover, the switch voltage stress is independent of converter load variation. The proposed converter is well suited for universal offline PFC applications for a low power range (< 150 W). The feasibility of the converter is confirmed with results obtained from a computer simulation and from an experimental prototype.

Keywords: Low harmonic rectifier, power factor correction (PFC), single-stage single-switch rectifier, unity power factor (UPF).

References:

1. M. Brkovic and S. Cuk, "Novel single stage ac-to-dc converters with magnetic amplifiers and high power factor," in Proc. IEEE Appl. Power Electron. Conf., 1995, pp. 447–453.
2. F. S. Tsai, P. Markowski, and E. Whitcomb, "Off-line flyback converter with input harmonic current correction," in Proc. IEEE INTELEC, 1996, pp. 120–124.
3. M. T. Madigan, R.W. Erickson, and E. H. Ismail, "Integrated high quality rectifier-regulators," IEEE Trans. Ind. Electron., vol. 46, no. 4, pp. 749– 758, Aug. 1999.
4. R. Redl, L. Balogh, and N. O. Sokal, "A new family of single stage isolated power factor correctors with fast regulation of the output voltage," in Proc. IEEE Power Electron. Spec. Conf., 1994, pp. 1137–1144.
5. M. M. Jovanovic, D. M. Tsang, and F. C. Lee, "Reduction of voltage stress in integrated high quality rectifier regulators by variable frequency control," in Proc. IEEE Appl. Power Electron. Conf., 1994, pp. 569–575.
6. M. J. Willers, M. G. Egan, J. M. D. Murphy, and S. Daly, "A BIFRED converter with a wide load range," in Proc. IEEE Int. Conf. IECON, 1994, pp. 226–231.
7. R. Redl and L. Balogh, "Design consideration for single stage isolated power factor corrected power supplies with fast regulation of the output voltage," in Proc. IEEE Appl. Power Electron. Conf., 1995, pp. 454–458.
8. O. Garcia, J. A. Cobos, P. Alou, R. Preito, J. Uceda, and S. Ollero, "A new family of single stage AC/DC power factor correction converters with fast output voltage regulation," in Proc. IEEE Power Electron. Spec. Conf.,1997, pp. 536–542.
9. K. Schenk and S. Cuk, "A single-switch single-stage active power factor corrector with high quality input and output," in Proc. IEEE Power Electron. Spec. Conf., 1997, pp. 385–391.
10. J. Qian and F. C. Lee, "A high efficiency single-stage single-switch high power factor AC/DC converter with universal line input," IEEE Trans. Power Electron., vol. 13, no. 4, pp. 699–705, Jul. 1998.
11. Z. Jindong, L. Huber, M. Jovanovic, and F. C. Lee, "Single-stage input current- shaping technique with voltage-doubler-rectifier front end," IEEE Trans. Power Electron., vol. 16, no. 1, pp. 55–63, Jan. 2001.
12. T. F. Wu, Y.-J. Wu, and Y. C. Liu, "Development of converters for improving efficiency and achieving both power factor correction and fast output regulation," in Proc. IEEE Appl. Power Electron. Conf., 1999, pp. 958–964.
13. M. Daniele, P. K. Jain, and G. Joos, "A single-stage power-factor corrected AC/DC converter," IEEE Trans. Power Electron., vol. 14, no. 6, pp. 1046–1055, Nov. 1999.
14. H. Wei, I. Batarseh, G. Zhu, and P. Kornetzky, "A single-switch AC/DC converter with power factor correction," IEEE Trans. Power Electron., vol. 15, no. 3, pp. 421–430, May 2000.
15. J. Chen and C. Chang, "Analysis and design of SEPIC converter in boundary conduction mode for universal-line power factor correction applications," in Proc. IEEE Power Electron. Spec. Conf., 2001, pp. 742–747.
16. W. Qiu, W. Wu, S. Luo, W. Gu, and I. Batarseh, "A bi-flyback PFC converter with low intermediate bus voltage and tight output voltage regulation for universal input applications," in Proc. IEEE Appl. Power Electron. Conf., 2002, pp. 256–262.
17. Q. Zhao, F. C. Lee, and F. Tsai, "Voltage and current stress reduction in single-stage power factor correction AC/DC converters with bulk capacitor voltage feedback," IEEE Trans. Power Electron., vol. 17, no. 4, pp. 477–484, Jul. 2002.
18. L. Petersen and R. W. Erickson, "Reduction of voltage stresses in buck boost- type power factor correctors operating in boundary conduction mode," in Proc. IEEE Appl. Power Electron. Conf., 2003, pp. 664–670.
19. D. D. C. Lu, D. K.W. Cheng, and Y. S. Lee, "Single-stage AC-DC power factor- corrected voltage regulator with reduced intermediate bus voltage stress," Proc. Inst. Electr. Eng.—Electr. Power Appl., vol. 150, no. 5, pp. 506–514, Sep. 2003.
20. A. A. Aboulnaga and A. Emadi, "Integrated magnetic BIFRED converter with lower intermediate capacitor voltage," in Proc. IEEE Power Electron. Spec. Conf., 2004, pp. 1551–1556.

32-38

	Authors:	**V. S. K. Sandeep , M. Divya Charitha , G. Uday Bhanu**
	Paper Title:	**Reliability Evaluation of Bulk Power Systems Incorporating UPFC**

Abstract: Unified power flow controller (UPFC) is one of the most advanced flexible AC transmission system (FACTS) devices that can simultaneously and independently control both the real and reactive power flow in a transmission line. The utilization of UPFC can result in significant reliability benefits in modern power systems. This paper proposes a novel reliability network model for a UPFC, which incorporates the logical structure and the distinct operating modes of a UPFC. Two-state or three-state models have been used for UPFC by previous researchers. The proposed model divides the UPFC operating modes into four states, namely the UPFC up state, STATCOM state, SSSC state and UPFC down state, in order to improve the accuracy of the model by recognizing the practical operating states of a UPFC. The new model also incorporates an AC flow-based optimal load shedding approach to assess the impact of bus voltages and reactive power flow on UPFC in order to decide appropriate load curtailment in the reliability evaluation process. The performance of the proposed model is

8.

verified using a test system, and compared with different reliability models of UPFC. Various operating schemes, such as different placement locations of UPFC, and different capacities of UPFC are used to illustrate the advantages of the developed models, and to examine the impacts of UPFC on the system reliability.

Keywords: Unified power flow controller; reliability evaluation; bulk power system; load curtailment model.

39-44

References:

1. X. Zhang, C. Rehtanz and B. Pal, Flexible AC Transmission Systems: Modeling and Control. Berlin: Springer, 2006.
2. A. J. F. Keri, X. Lombard, A. A. Edris, A. S. Mehraban and A. Elriachy, "Unified Power Flow Controller(UPFC): Modeling and Analysis," IEEE Trans. Power Deliv., vol. 14, no. 2, pp. 648-654, Apr. 1999.
3. R. Billinton, M. Fotubi-firuzabad and S. O. Faried, "Power System Reliability Enhancement using a Thyristor Controlled Series Capacitor," IEEE Trans. Power Syst., vol. 14, no. 1, pp. 369-374, Feb. 1999.
4. A. K. Verma, A. Srividya and B. C. Deka, "Impact of a FACTS controller on reliability of composite power generation and transmission system," Electric Power Systems Research, vol. 72, no. 2, pp. 125-130, Dec. 2004.
5. G. M. Huang and Y. Li, "Impact of Thyristor Controlled Series Capacitor on Bulk Power System Reliability," in proc. IEEE Power Engineering Society Summer Meeting, Chicago, America, Jul. 2002, pp. 975-980.
6. G. M. Huang and Y. Li, "Composite power system reliability evaluation for systems with SVC and TCPAR," in proc. IEEE Power Engineering Society General Meeting, Toronto, Canada, Jul. 2003, pp. 771-776.
7. C. D. Schauder, D. M. Hamai, L. Gyugyi, T. R. Rietman, A. Edris, M. R. Lund and D. R. Torgerson, "Operation of the unified power flow controller (UPFC) under practical constraints," IEEE Trans. Power Deliv., vol. 13, no. 2, pp. 630-639, Apr. 1998.
8. F. Aminifar, M. Fotuhi-Firuzabad and R. Billinton, "Extended reliability model of a unified power flow controller," IET Proc-Gener. Transm. Distrib., vol. 1, no. 6, pp. 896-903, Nov. 2007.
9. A. Rajabi-Ghahnavieh, M. Fotuhi-Firuzabad and R. Feuillet, "Evaluation of UPFC impacts on power system reliability," in proc. IEEE/PES Transmission and Distribution Conference and Exposition, Chicago, America, Apr. 2008, pp. 1-8.
10. R. Billinton and Y. Cui, "Reliability evaluation of composite electric power systems incorporating FACTS," in proc. IEEE Canadian Conference on Electrical Computer Engineering, Winnipeg, Canada, May 2002, pp. 1-6.
11. R. Billinton and D. S. Ahluwalia, "Incorporation of a DC link in a composite system adequacy assessment — DC system modelling," IEE Proc-Gener. Transm. Distrib., vol. 139, no. 3, pp. 221-225, May 1992.
12. R. Billinton, S. Aboreshaid and M. Fotuhi-Firuzabad, "Well-being analysis for HVDC transmission system," IEEE Trans. Power Syst., vol. 12, no. 2, pp. 913-918, May 1997.
13. R. Billinton and R. N. Allan, Reliability of Electric Power System. New York and London: Plenum, 1996.
14. R. Billinton and W. Li, Reliability Assessment of Electric Power Systems Using Monte Carlo Methods. New York: Plenum, 1994.
15. W. Li, Risk Assessment of Power Systems: Models, Methods and Applications. Piscataway, HJ: IEEE Press, 2005.
16. C. R. Fuerte-Esquivel and E. Acha, "Unified power flow controller: a critical comparison of Newton - Raphson UPFC algorithms in power flow studies," IEE Proc-Gener. Transm. Distrib., vol. 144, no. 5, pp. 437– 444, Sept. 1997.
17. R. Billinton, S. Kumar, N. chowdhury, K. Chu, K. Debnath, L. Goel, E. Khan, P. Kos, G. Nourbakhsh and J. Oteng-Adjei, "A reliability test system for education purposes-basic data," IEEE Trans. Power Syst., vol. 4, n0.

9.

Authors:	**R. Vani, K. Soundara Rajan**
Paper Title:	**DWT and PCA Based Image Enhancement with Gaussian Filter**

Abstract: A new satellite image contrast enhancement technique based on the Discrete Wavelet Transform (DWT) and Principal Component Analysis has been proposed. By the use of discrete wavelet transform, the input image decomposed into four frequency sub-bands and estimates the eigen values and eigen vectors (PCA) of the low–low subband image and reconstructs the enhanced image by applying inverse DWT. The technique is compared with conventional image equalization techniques such as standard general histogram equalization and local histogram equalization, as well as state-of-the-art techniques such as brightness preserving dynamic histogram equalization and Principal Component Analysis. The experimental results show the superiority of the proposed method over conventional and state-of-the-art techniques.

Keywords: Discrete wavelet transform, image equalization, satellite image Contrast enhancement.

45-47

References:

1. K. Kinebuchi, D. D. Muresan, and T.W. Parks, "Image interpolation using wavelet based hidden Markov trees," in Proc. IEEE ICASSP, 2001, vol. 3, pp. 7–11.
2. M. S. Crouse, R. D. Nowak, and R. G. Baraniuk, "Wavelet-based statistical signal processing using hidden Markov models," IEEE Trans. Signal Process., vol. 46, no. 4, pp. 886–902, Apr. 1998.
3. S. Zhao, H. Han, and S. Peng, "Wavelet domain HMT-based image super resolution," in Proc. IEEE ICIP, Sep. 2003, vol. 2, pp. 933–936.
4. A. Temizel and T. Vlachos, "Image resolution upscaling in the wavelet domain using directional cycle spinning," J. Electron. Imaging, vol. 14, no. 4, p. 040501, 2005.
5. A. Gambardella andM.Migliaccio, "On the superresolution of microwave scanning radiometer measurements," IEEE Geosci. Remote Sens. Lett., vol. 5, no. 4, pp. 796–800, Oct. 2008.
6. V. A. Tolpekin and A. Stein, "Quantification of the effects of land-coverclass spectral separability on the accuracy of Markov-random-field-based superresolution mapping," IEEE Trans. Geosci. Remote Sens., vol. 47, no. 9, pp. 3283–3297, Sep. 2009.
7. A. Temizel and T. Vlachos, "Wavelet domain image resolution enhancement using cycle-spinning," Electron. Lett., vol. 41, no. 3, pp. 119–121,Feb. 3, 2005.
8. L. A. Ray and R. R. Adhami, "Dual tree discrete wavelet transform with application to image fusion," in Proc. 38th Southeastern Symp. Syst. Theory, Mar. 5–7, 2006, pp. 430–433.
9. A. Temizel, "Image resolution enhancement using wavelet domain hidden Markov tree and coefficient sign estimation," in Proc. ICIP, 2007, vol. 5, pp. V-381–V-384.

Authors:	**Iloamaeke I. M, Onuegbu T. U, Umeobika U. C, Umedum N. L**

	Paper Title:	**Green Approach to Corrosion Inhibition of Mild Steel Using Emilia Sonchifolia and Vitex Doniana In 2.5M HCl Medium**

Abstract: This research studied the use of leaves extract of Emilia sonchifolia and Vitex doniana as corrosion inhibitors of mild steel in 2.5M HCl medium using gasometric method at 30oC and 60oC. The result obtained showed that inhibition efficiency of Emilia sonchifolia leaves extract on the surface of the mild steel was 60.38% at 30oC and 53.13% at 60oC while that of Vitex doniana leave extract was 68.22% at 30oC and 54.98% at 60oC. Adsorption of Emilia sonchifolia leaves extract on the surface of the mild steel follows Langmuir, Tempkin and Freunlich adsorption isotherm while adsorption of Vitex donania leaves extract on the surface of the mild steel obeyed Langmuir and Tempkin adsorption isotherm. Physical adsorption was proposed from the Ea, ΔH and ΔG calculated.

Keywords: Corrosion, inhibitor, mild steel, Emilia sonchifolia and Vitex doniana.

References:

1. Corrosion the free Encyclopedia en.wikipedia.org/wiki/corrosion. Retrieved on 30/1/2013
2. A. A. EL-Meligi (2010). Corrosion prevention strategies as a crucial need for decreasing environmental pollution and saving Economy. Corr. Sci., 2: 22-23
3. A. Noor Ehteram (2008). Comparative study on the corrosion inhibition of mild steel by aqueous extract of fenugreck seeds and leaves in acidic solutions. Journal of Engineering and Applied Science, 3(1):23-30
4. H. P. Sachin, , M. H. Moinuddin Khani, , S. Raghavendra and i, N. S. Bhujangaiah (2009). L dopa as corrosion inhibitor for mild steel in mineral acid. Open Electrochemistry Journal, 1:15-18
5. P.C. Okafor, E. E. Ebenso and U. J. Ekpe (2010). Azadirachta Indica extract as corrosion inhibitor for mild steel in acidic medium. Int. J. Electrochem. Sci.,5(2010):978-993
6. R. Saratha, S.V. Pyriya and P. Thilagavathy (2009).Investigation of citrus aurantifolia leaves extract as corrosion inhibitors for mild steel in 1M HCl. E- Journal of Chem., 6(3):785-795
7. I. M. Iloamaeke, T. U. Onuegbu, , V.I.E. Ajiwe and U. C. Umeobika (2010). Corrosion inhibition of mild steel by Pterocarpus soyauxi leaves extract in HCl medium. Int. J. of Plant and Environmental Sci.,2(3):22-28
8. R. and Vasudha V. G. (2010). Emblica Officinalis (Indian Gooseberry) leaves extract as corrosion inhibitor for mild steel in HCl medium. E-Journal of Chem., 7(3): 677-684
9. S. Ananda Louise Sathiyanathan, M. Selvanayagam, S. Mohanan, and N. Palaniswamy (2005). Corrosion inhibition of mild steel by ethanolic extract of Ricinus Communis leaves. Indian Journal of Chemical Tech., 12:356-360
10. K. Orubite Okorosaye, I. R Jack, M. Ochei, and O.Akaranta (2007). Synergistic effect of potassium iodide on corrosion inhibition of mild steel in Hcl medium by extract of Nypa friuticans wurmb. J. of Appl. Sci. and Enviro. Mange., 11(2):27-31
11. R.Saratha, M. Saranya Devi, H. N. Meenakshi, and R. Shyamala (2011). Enhanced corrosion resistance of Tecoma Stans extract on Mild steel in 0.5M H2SO4 solution. Int. J. Of Current Research, 2(1): 092-096
12. M. A. Quraishi, Dileep Kumar, Yadar and Ishtiaque Ahamad (2009). Green Approach to corrosion inhibition by Black pepper extract in hydrochloric acid solution. The Open Corr. Journal, 2:56-60
13. P. Arora, S.Kumar, M. N. Sharma, and S. P. Mathur (2007). Corrosion inhibition of aluminum by Capparius deciduas in acid medium. E- J. of Chem., 4(4):450-456
14. R. Saratha, and V. G. Vasudha, (2009). Inhibition of mild steel corrosion in 1N H2SO4 medium by acid extract of Nyctanthes abortristic leaves. E- Journal of Chem., 6(4):1003-1008)
15. Ambrish Singh and V. K. Vasudha, and M. A. Quraishi (2010). Aqueous extract of Kalmegh (andrographis paniculata) leaves as green corrosion inhibitor for mild steel in HCl solution. Inter. J. of Corr., vol 2010 article ID 275983
16. S. A. Umoren, E. E. Ebenso, P. C. Okafor, U.J. Ekpe, and O. Ogbobe, (2006). Effect of halide on the corrosion inhibition of aluminum in Alkaline medium using polyvinyl alcohol. Journal of Appl. Polmeric Sci., 103:2810-2816
17. S. A. Umoren, O. Ogbobe, I. O. Igwe and E. E. Ebenso (2008). Inhibition of mild steel in acid medium using synthetic and natural occurring polymers and synergistic halide additive. Corr. Sci., 50: 1998-2006
18. S. B. Ulaeto, U. J. Ekpe, M. A. Chidiebere, E. E. Oguzie, (2012). Corrosion inhibition of mild steel in HCl by acid extract of Eichhornia crassipers. Int. J. of Material and Chem., 2(4): 156-164
19. I. B. Obot, S. A. Umoren, and N. O. Obi- Egbedi (2011). Corrosion inhibition and adsorption behavior for aluminum by extract of amingera robusta in HCl solution: Synergistic effect of Iodide ions. J. Mater Enviro. Sci., 2(1):60-70
20. Y. K. Agrawal, J. D. Shah, M. N. Desai, and N. K Shah (2003). Schiff bases ethylene as corrosion inhibitors of zinc in sulphuric acid. Corrosion sci, 46: 633-651
21. M. Abdullah (2004). Antibacterial drugs as inhibitors for corrosion of aluminum in HCl solution. Corrosion Sci., 46:1981-1998
22. A.Y. El.Etre (2003).Inhibition of aluminum corrosion using opuntia extract. Corrosion sci., 45:2485-2495
23. K. K. Sharma, and L. K. Sharma, A textbook of Physical Chemistry, 4th edition, New Delhi Indian: Vikas publishing house Ltd,1999, p 608
24. S. A.Umoren, O. Ogbobe, E. E. Ebenso, and U. J. Ekpe (2006). Effect of halide ions on the corrosion inhibitor of mild steel in acidic medium using polyvinyl alcohol. Pigment and Resin Technology, 35(5):284-292.
25. S.A.Umoren, U. M. Eduok, and E. E. Oguzie (2008). Corrosion inhibition of mild steel in 1M H2SO4 by Polyvinyl Pyrrolidone and synergistic iodide additive. Portugaliae Electrochemica Acta, 26(6): 533-546
26. P. Deepa Rani, and S. Selvaraj (2010). Emblica OffIcinalis (AMLA) leaves extract as corrosion inhibitor for copper and its alloy (Cu-272N) in natural Sea Water: Archived of applied Science Research, 2(6): 140-150
27. N. O. Eddy, P. Ekwumegbo, and S. A. Odemelam, (2008). Inhibition of the mild steel in H2S04 by 5-amino-1-cyclopropyl-7-(3r,5s)-dimethylpiperazin-1-yl)-6,8-difluoro-4-oxo-quinoline-3-carboxylic acid. Inter journal of physical science, 3(2):1-6
28. P.C. Okafor, E. E. Ebenso, and J. U. Ekpe (2010). Azadirachta indica extract as corrosion inhibitor for mild steel in acid medium. Inter.Journal of Electrochemical Science, 5: 978-993.
29. M. A Quraish, Dileep Kumar Yadaar and Ishtiague Ahamud (2009). Green Approach to corrosion Inhibition by black pepper extract in HCl. Open Corrosion Journal, 2: 56-60.
30. N. O. Eddy, and A. S Ekop (2007). Inhibition corrosion of zinc in 0.1M H2SO4 by 5-amino-1-cyclopropyl-7-[(3r, 5s) 3, 5-dimethylpiperazin-1-yl] -6, 8-difluoro-4-oxoquinolne-3-carboxylic acid. MSAIJ, 4(1):2008-2016
31. M. M. Ihebrodike, A. A. Uroh, K. B. Okeoma, and G. A. Alozie (2010). The inhibitive effect of Solanum melongena L. leaves extract on the corrosion of aluminum in H2SO4. African Journal of Pure and Applied Chem., 4(8): 158-165.
32. R.Saratha, Saranya Devi, H. N. Meenakshi, and R. Shyamala, (2011). Enhanced corrosion resistance of Tecoma stans extract on the mild steel in 0.5M H2SO4 solution. Inter. Journal of current Research, 2(1): 092-096.

10. **48-52**

	Authors:	**K. Vijayasree, T. Rajasekhar**
	Paper Title:	**The Grapheme-Personification Synaesthesia at Indian Glance**

11.

Abstract: The present investigation of the study is to examine the grapheme-personifications in Indian context The study deals the linguistic characteristics of letters and numbers with regard to gender, personality, appearance and social relations with the subjects who are Synaesthetes (Experimental group) and non-Synaesthetes (control group). The subjects are considered Synaesthetes who perceive together with different modalities. The subjects consist of 6. The means, SDs, correlation, Z tests are employed for the investigation of the study to find- out relations/association of linguistic characteristics of letters and numbers with regard to gender, personality, appearance and social relations. The results indicate the significance relations influence partly of the linguistic characteristics of letters and numbers with regard to gender, personality, appearance and social relations. There is no phenomenological consistency in linguistic characteristics of letters and numbers with regard to gender, personality, appearance and social relations between synaesthetes and non-synaesthetes.

Keywords: Grapheme-personification, synaesthesia, synaesthetes, linguistic characteristics, gender, personality, appearance and social relations.Research area- Synaesthesia area in cognitive psychology.

References:

1. Amin, Maina, OlufemiOlu-Lafe, Loes E. Claessen, Monika Sobczak-Edmans, Jamie Ward, Adrian L. Williams, and Noam Sagiv. (2011).Understanding grapheme personification: A social synaesthesia?, Journal of Neuropsychology; 5: 255-282.
2. Cytowic, R. E. (2002), Synaesthesia: A Union of the Senses, 2nd ed, Cambridge, MA: MIT Press
3. Galton F (1880). "Visualized Numerals". Nature21 (543): 494–495.
4. Galton F. (1883). Inquiries into Human Faculty and Its Development. Macmillan. Retrieved 2008-06-17.
5. Hubbard EM, Arman AC, Ramachandran VS, Boynton GM (2005),Individual differences among grapheme-color synesthetes: Brain behavior correlations. Neuron 45:975–985.
6. Jonas, C. N., Taylor, A. J. G., Hutton, S.,Weiss, P. H.,&Ward, J. (2011). Visuo-spatial representations of the alphabet in synaesthetes and non-synaesthetes. Journal of Neuropsychology, 5, 302–322.
7. Jarick, M., Dixon, M.J., Maxwell, E.C., Nicholls, M.E.R. and Smilek, D. The ups and downs (and lefts and rights) of synaesthetic number forms: Validation from spatial cueing and SNARC-type tasks. Cortex, (2009),Volume: 45, 10, 1190-1199.
8. Nunn Ja, Bregorylj, Grammer M, Williams Scr, ParslowDm, Morgan Mj, (2002), Functional magnetic resonance imaging of synesthesia: activation of ,4/8 by spoken words. Nat Neuroscience,5:371–375.
9. Palmeri, Thomas J., Randolph Blake, René Marois, Marci A. Flanery, and William Whetsell, Jr, (2002) "The perceptual reality of synesthetic colors." Proceedings of the National Academy of Science. 99,19 ,4127-4131.
10. Paulesu, E., J. Harrison, S. Baron-Cohen, J.D.G. Watson, L. Goldstein, J. Heather, R.S.J. Frackowiak, and C.D. Frith. (1995). The physiology of coloured hearing: A PET activation study of colour-word synaesthesia. Brain; 118: 661-676.
11. Ramachandran, V.S., Hubbard, E.M. "Synaesthesia – A window into perception, thought and language", (2001) Journal of Consciousness Studies, 8.12 , 3-34.
12. Rucker, R. (1995), Infinity and the Mind, Princeton University Press,
13. Sagiv, N.; Amin, M.; Olu-Lafe, O.; Ward, J. (2005), "Beyond Colour: Further Varieties of Synaesthetic Experience", 14th European Society for Cognitive Psychology meeting, Aug 31 - Sep 3, Leiden, The Netherlands
14. Sagiv, N., Simner, J., Collins, J., Butterworth, B., & Ward, J. (2006). What is the relationship between synaesthesia and visuo-spatial number forms? Cognition, 101, 114-128.
15. Simner J, Glover I, Mowata (2006) Linguistic mechanisms of grapheme- coloursynaesthesia. Cortex, 42:281–289.
16. Simner, J.; Hubbard, E. M. (2006), "Variants of synaesthesia interact in cognitive tasks: Evidence for implicit associations and late connectivity in cross-talk theories", Neuroscience143 (3): 805–814,
17. Simner J, Holenstein E (2007). "Ordinal linguistic personification as a variant of synesthesia". Journal of Cognitive Neuroscience19 (4): 694–703.
18. Simner, Julia, Louise Glover, and Alice Mowat. (2006). "Linguistic determinants of word colouring in grapheme-coloursynaesthesia." Cortex; 42: 281-289
19. Smilek, D., Callejas, A., Dixon, M. J., &Merikle, P. M. (2007). Ovals of time: Time-space associations in synaesthesia. Conscious.Cogn, 16, 507-519.
20. Sperling, Julia M., David Prvulovic, David E.J. Linden, Wolf Singer and AglajaStirn. (2006). Neuronal correlatates of colour-graphemicsynaesthesia: an fMRI study., Cortex; 42: 295-3.

53-58

12.

Authors: **Dinesh Kumar Dwivedi, Akhilesh Kosta, Akhilesh Yadav**

Paper Title: **Implementation and Performance Evaluation of an Energy Constraint AODV Routing**

Abstract: The aim of this paper is to evaluate the performance of an energy aware routing protocol, called E-AODV (Energy Constraint on AODV) which derives from the AODV protocol and which is based on the local decisions of intermediate stations to maintain the connectivity of the network as long as possible. The results obtained using the Network Simulator NS-2 demonstrates how small changes in the principle of the AODV protocol can efficiently balance the energy consumption between nodes, which increases the network lifetime. The performance parameters are energy consumption and Packet delivery ratio. The simulation result of new protocol is compared with AODV protocol and it is obtained using Network Simulator NS-2 (Version 2.34) [13].The performance parameters are energy consumption and delivery ratio. The simulation result shows that energy consumption is reduced up to 25%-30% with CBR traffic and it is slightly affect the Delivery Ratio.

Keywords: Ad hoc networks, Energy Consumption, AODV, Packet Delivery Ratio.

References:

1. B. Cameron Lesiuk, "Routing in Ad Hoc Networks of Mobile Hosts", Department of technical Engineering, University of Victoria, Victoria, BC, Canada, December 2, 1998.
2. Charles E. Perkins and Elizabeth M. Royer, "Ad hoc On-Demand Distance Vector Routing", Proceedings of the 2nd IEEE Workshopon Mobile Computing Systems and Applications, New Orleans, LA, February 1999.
3. Elizabeth M. Royer and Charles E. Perkins, "An Implementation Study of the AODV Routing Protocol", Proceedings of the IEEE Wireless Communications and Networking Conference, Chicago, IL, September 2000.
4. John A. Stine and Gustavo de Veciana, "A Comprehensive Energy Conservation Solution for Mobile Ad Hoc Networks", Department of Electrical & Computer Engineering, The University of Texas, 2002.

59-62

5. Chansu YuBen Lee Hee Yong Youn, "Energy Efficient Routing Protocols for Mobile Ad Hoc Networks", Department of ECE. Cleveland State University, 2003.
6. Ya Xu, John Heidemann, and Deborah Estrin, "Adaptive Energy-Conserving Routing for Multihop Ad-hoc Networks", USC-ISI Research Report 527, October 12, 2000.
7. M. Stemm and R. Katz, "Measuring and Reducing Energy Consumption of Network Interfaces in Hand-held devices", IEICE Transactions on Communications, Special Issue on Mobile Computing, Invited paper, E80-B(8): pp1125-1131, August 1997.
8. M. Sidi-Mohammed Senouci, « Applications de Techniques d'Apprentissage dans les Réseaux Mobiles », doctorate thesis, Université de Pierre et Marie Curie, octobre 2003.
9. Dhiraj Nitnaware, Pravin Karma and Ajay Verma, "Energy Constraint Gossip based Routing Protocol for MANET", under review process.
10. Zygmunt J.Haas, Senior member, IEEE, Joseph Y.Halpern, Senior member, IEEE, " Gossip Based Ad Hoc Routing", IEEE Transactions on networking, Vol.14, No.3, June 2006.
11. M. Frikha and F. Ghandour, "Implementation and Performance Evaluation of an Energy Constraint Routing Protocol for MANET", 3rd International Conference of Telecommunications (AICT'07), IEEE,2007.
12. Charles E. Perkins, Elizabeth M. Royer and S. Das, "Ad-Hoc On Demand Distance Vector Routing (AODV)", draft-ietfmanet-aodv- 05.txt, March 2000.
13. Network Simulator, ns-2, http://www.isi.edu/nsnam/-ns/.
14. N.Mahesh, T.V.P.Sundararajan, Dr.A.Shanmugam, "Improving performance of AODV Protocol using Gossip based approach", IEEE International Conference on Computational Intelligence and Multimedia Applications, 2007.

13.	**Authors:**	**Sakadasariya Achyut R**
	Paper Title:	**Survey of Resource and Job Management for Load Balancing In Grid Computing**

Abstract: Load balancing is the process of load distribution, handling incoming requests and better resource utilization. In a distributed grid computing system it is desirable to achieve an efficient distribution of workload among systems so that each and every machine would have the same workload. No machine should remain idle while other machines are overloaded. Load distribution is done to achieve better response time, better resource utilization and thus improved performance. For improve the performance we have various load balancing algorithms, different types of load balancing strategies and techniques.

Keywords: Computational grid, resource utilization, request handling, data migration.

References:

1. Ian Foster and Carl Kesselman, "The Grid: Blueprint for a New Computing Infrastructure," Elsevier Inc., Singapore, Second Edition, 2004.
2. K.Ranganathan and I.Foster, Simulation studies of computation and data scheduling algorithms for data grids. Journal of Grid Computing, 1(1), 53-62, 2003.
3. M. Caramia, S. Giordani and A. Iovanella, Grid scheduling by on-line rectangle packing. Networks, B. Smith, "An approach to graphs of linear forms (Unpublished work style)," unpublished, 44(2), 106-119, 2004.
4. Y. Gao, H. Rong and J. Huang, "Adaptive grid job scheduling with genetic algorithms. Future Generation Computer Systems", 21, 151- 161, 2005.
5. C. Weng and X. Lu, "Heuristic scheduling for bag-of-tasks application in combination with QoS in the computational grid", Future Generation Computer Systems, 21, 271-280, 2005.
6. K.Somasundaram, S.Radhakrishnan, M.Gomathynayaga "Efficient Utilization of Computing Resources using Highest Response Next Scheduling in Grid" 6 (5): 544-547, Asian Journal of Information Technology, 2007.
7. K.Somasundaram, S.Radhakrishnan, "Node Allocation In Grid Computing Using Optimal Resource Constraint (ORC) Scheduling", VOL.8 No.6, IJCSNS International Journal of Computer Science and Network Security, June 2008.
8. J. Santoso; G.D. van Albada; B.A.A. Nazief and P.M.A. Sloot: "Hierarchical Job Scheduling for Clusters of Workstations", ASCI 2000, pp. 99-105. ASCI, Delft, June 2000.
9. Diana Moise, Izabela Moise , Florin Pop,Valentin Cristae, "Resource CoAllocation for Scheduling Tasks with Dependencies, in Grid", The Second International Workshop on High Performance in Grid Middleware HiPerGRID 2008.
10. Ng Wai Keat,Ang Tan Fong,Ling Teck chaw,Liew Chee Sun, "SCHEDULING FRAMEWORK FOR BANDHWIDTH-AWARE JOB GROUPING-BASED SCHEDULING IN GRID COMPUTING", Vol.19(2), Malaysian Journal of Computer Science, 2006.
11. Quan Liu, Yeqing Liao, "Grouping-Based Fine-grained Job Scheduling in Grid Computing", Vol.1, pp. 556-559, IEEE First International Workshop on Education Technology and Computer Science, 2009.
12. Homer Wu,Chong-Yen Lee,Wuu-Yee chen,Tsang Lee, "A Job schedule Model Based on Grid Environment", IEEE Proceeding of the First International Conference on Complex, Intelligent and Software Intensive System, CISIS'07 2007.
13. Fufang Li, Deyu Qi, Limin Zhang, Xianguang Zhang, and Zhili Zhang, "Research on Novel Dynamic Resource Management and Job Scheduling in Grid Compuing", IEEE Proceedings of the First International Multi-Symposiums on Computer and Computational Sciences, IMSCCS 2006.
14. Ms.P.Muthuchelvi, Dr.V.Ramachandran, "ABRMAS: Agent Based Resource Management with Alternate Solution," IEEE, the Sixth International Conference on Grid and Cooperative Computing, GCC 2007.
15. Junyan Wang, Yuebin Xu, Guanfeng Liu, Zhenkuan Pan, and Yongsheng Hao, "New Resource Discovery Mechanism with Negotiate Solution Based on Agent in Grid Environments", IEEE The 3rd International Conference on Grid and Pervasive Computing – Workshops, 2008.
16. Anju Sharma, and Seema Bawa, "An Improved Resource Discovery Approach Using P2P Model for Condor: A Grid Middleware", World Academy of Science, Engineering and Technology, 2006.
17. Alpana Rajan, Anil Rawat, Rajesh Kumar Verma, "Virtual Computing Grid using Resource Pooling", IEEE, International Conference on Information Technology, 2008.
18. R. Buyya and M. Murshed, GridSim; A toolkit for the modeling and Simulation of distributed management and scheduling for grid Computing, 2002. World Academy of Science, Engineering and Technology 40 2010.

63-66

	Authors:	**Nisha H. Bhandari**
	Paper Title:	**Survey on DDoS Attacks and its Detection & Defence Approaches**

Abstract: In Cloud environment, cloud servers providing requested cloud services, sometimes may crash after receiving huge amount of request. This situation is called Denial Of service attack. Cloud Computing is one of today's most exciting technologies due to its ability to reduce costs associated with computing while increasing flexibility and scalability for computer processes. Cloud Computing is

14.

changing the IT delivery model to provide on-demand self-service access to a shared pool of computing resources (physical and virtual) via broad network access to offer reduced costs, capacity utilization, higher efficiencies and mobility. Recently Distributed Denial of Service (DDoS) attacks on clouds has become one of the serious threats to this buzzing technology. Distributed Denial of Service (DDoS) attacks continue to plague the Internet. Distributed Denial-of-Service (DDoS) attacks are a significant problem because they are very hard to detect, there is no comprehensive solution and it can shut an organization off from the Internet. The primary goal of an attack is to deny the victim's access to a particular resource. In this paper, we want to review the current DoS and DDoS detection and defence mechanism.

Keywords: Cloud Computing, Distributed Denial of Service (DDoS) attack, TTL, Hop-count, and packet marking.

67-71

References:

1. Ayesha Malik, Muhammad MohsinNazir Security Framework for Cloud Computing Environment: A ReviewJournal of Emerging Trends in Computing and Information SciencesVOL. 3, NO. 3, March 2012
2. FarzadSabahi Cloud Computing Security Threats and Responses
3. GulshanShrivastava and KavitaSharma ,"The Detection & Defense of DoS & DDoS Attack:A Technical Overview" Proceeding of ICC, 27-28 December 2010
4. Yaar, A., A. Perrig and D. Song, 2003. Pi: A Path Identification Mechanism to Defend against DDoSAttacks. Proceedings of Symposium on Security and Privacy, pp: 93-107
5. Wesley M. Eddy, Verizon Federal Network Systems"Defense Against TCP SYN Flooding Attack " December 2004 Available: http://www.cisco.com/web/about/ac123/ac147/archived_issues/ipj_9-4/syn_flooding_attacks.html
6. Simona RAMANAUSKAITĖ "Modeling and research of Distributed Dienal of service attack "Available: http://vddb.laba.lt/fedora/get/LT-eLABa-001:E.02~2012~D_20120723_10503170003/DS.005.1.01.ETD
7. Fu-Yuan Lee *, ShiuhpyngShiehDefending against spoofed DDoS Attack s with path fingerprint International Journal of Computer application (0975 – 8887)
8. W. Haining, et al., "Defense Against Spoofed IP Traffic Using Hop-Count Filtering," Networking, IEEE/ACM Transactions on, vol. 15, pp. 40-53, 2007
9. P. A. R. Kumar and S. Selvakumar, "Distributed Denial-of-Service (DDoS) Threat in Collaborative Environment - A Survey on DDoS Attack Tools and Traceback Mechanisms," in Advance Computing Conference, 2009. IACC 2009. IEEE International, 2009, pp. 1275-1280.
10. I. B. Mopari, et al., "Detection and defense against DDoS attack with IP spoofing," in Computing, Communication and Networking, 2008. ICCCn 2008. International Conference on, 2008, pp. 1-5.
11. JelenaMirkovic, Max Robinson, Peter Reiher, George Oikonomou ,"Distributed Defense Against DDoS Attacks" Available:http://www.isi.edu/~mirkovic/publications/udel_tech_report_2005-02.pdf
12. XinLiu ,"Mitigating Denial-of-Service Flooding Attacks with Source Authentication" Available:http://www.cs.duke.edu/~xinl/dissertation.pdf

15.

Authors:	**R. Raju, D. Dhivya, R. Saranya, S. I. Abbinaya**
Paper Title:	**SLA Negotiation for Web Service Consumption Based on Analytic Hierarchy Process**

Abstract: The effectual use of services to compile business processes in service computing stresses that the Quality of Services (QoS) convene consumers' outlook. The service consumer need to request for the service. The service provider will provide service to the consumer. When manipulating services, a service provider need to define the quality of service levels that will be offered to customers. Automated web-based negotiation of Service Level Agreements (SLA) can aid describe the QoS requirements of vital service-based processes. We propose a trusted Negotiation Manager (NM) framework that performs adaptive and intelligent mutual bargaining of SLAs between a service contributor and a service purchaser based on each party's high level business necessities. We also define an algorithm for adapting the decision functions during an enduring negotiation to conform with an opponent's offers or with simplified purchaser preferences. The NM uses intelligent agents to conduct the negotiation locally by choosing the most appropriate multi criteria decision making method known as Analytic Hierarchy Process (AHP).

Keywords: Analytic Hierarchy Process, Multi-criteria decision making, Quality of services, service-level agreement, negotiation, intelligent agents, adaptive negotiation, web services.

72-75

References:

1. Siddiqui.Z, Abdullah.A.H, Khan.M.K, "Qualified Analysis b/w ESB(s) Using Analytical Hierarchy Process (AHP) Method ",International Conference. Intelligent Systems Modelling and Simulation (ISMS) ,2011.
2. Sajid Ibrahim Hashmi, Rafiqul Haque, Eric Schmieders, and Ita Richardson, "Negotiation towards Service Level Agreements: A Life Cycle Based Approach", IEEE, 2011.
3. Wenliang Chen, Wenbao Jiang, "Analysis and Design of an Adaptive Automated Trust Negotiation System", International Conference on Mechatronic Science, Electric Engineering and Computer 2011.
4. Elarbi Badidi, "A Framework for Brokered Service Level Agreements in SOA Environments", IEEE,2011.
5. Frank Schulz, "Decision Support for Business-related Design of Service Level Agreements", IEEE, 2011.
6. Minjie Bian, Jiaoxiong Xia, Jun Xu ," Database preprocessing with AHP", International Conference. Fuzzy Systems and Knowledge Discovery (FSKD), Vol.6, 2010.
7. Shaoxu Guo, Wenbao jiang, "An Adaptive Automated trust negotiation model and Algorithm", International Conference on Communications and Intelligence Information Security,2010.
8. Chalouf.M.A, Krief,F, "Service level negotiation in ubiquitous environments", IEEE. Computers and Communications, 2009.
9. Jianyong Liu, Ling Li, Chengqun Fu, Zhongjun Wu, "A Multiple Criteria Decision Making Model Based on DEA/AR with AHP Preference Cone", Intelligent Systems and Applications, 2009.
10. Patankar.V, Hewett. R, "Automated Negotiations in Web Service Procurement", Third International Conference. Internet and Web Applications and Services, 2008.

11. Vahidov.R, Neumann.D, "Situated Decision Support for Managing Service Level Agreement Negotiations", International Conference on System Sciences, 2008.
12. Chunhao.Li, Yonghe Sun, Yanhui Jia "An improved ranking approach to AHP alternatives based on variable weights", pp. 8255 – 8260, 2008.
13. Liguo Fan, Feng Zuo ,"Research on Multi-Attribute Decision-Making Method Based on AHP and Outranking Relation", Power Electronics and Intelligent Transportation System, 2008.
14. Guo.P, Tanaka.H, "Decision-making with interval probabilities", IEEE International Conference, Systems, Man and Cybernetics, 2008.
15. Loftus.C, Sherratt.E, Demestichas.P," Engineering for quality of service", TINA. Global Convergence of Telecommunication and Distributed Object Computing,1997.

16.

Authors: **Dhudem Santhosh, Jisha Bhubesh, Khaja Rafiulla**

Paper Title: **Parallel Power Flow AC/DC Converter with High Input Power Factor and Tight Output Voltage Regulation for Universal Voltage Application**

Abstract: In this paper, a new parallel-connected single phase power factor correction (PFC) topology using flyback converter in parallel with forward converter is proposed to improve the input power factor with simultaneously output voltage regulation taking consideration of current harmonic norms. Paralleling of converter modules is a well-known technique that is often used in medium-power applications to achieve the desired output power by using smaller size of high frequency transformers and inductors. The proposed approach offers cost effective, compact and efficient AC-DC converter by the use of parallel power processing. Forward converter primarily regulates output voltage with fast dynamic response and it acts as master which processes 60% of the power. Flyback converter with AC/DC PFC stage regulates input current shaping and PFC, and processes the remaining 40% of the power as a slave. This paper presents a design example and circuit analysis for 300 W power supply. A parallel-connected interleaved structure offers smaller passive components, less loss even in continuous conduction inductor current mode, and reduced volt-ampere rating of DC/DC stage converter. MATLAB/SIMULINK is used for implementation and simulation results show the performance improvement.

Keywords: Circuit analysis, PFC, Power Conversion.

References:

17.

Authors: **Patil Shalaka, Ahir Minakshi, Kale Dattatraya**

Paper Title: **Attack Graph Generation and Threat Evaluation in Network Situation Awareness (NSA)**

Abstract: A Network is a collection of many devices, where each node is said to be wired or wireless connection between them. And now a day's most of the threat comes to the network either from outside or from a sort of situation which occurs internally due to many reasons. So the Intrusions or threat which occurs due to these situations are generally more damageable than the normal ones. This paper is introducing a technique to analyze various types of alerts & also generating attack graph for such alerts by using two algorithm i.e. correlation of isolated alerts to alert-pair, attack graph generation. And after analyzing the threat we are also performing evaluation technique to determine the seriousness of the threat and remove it. In this paper our vital focus is on alert analysis. In the current intrusion detection systems, it produces large volumes of alerts. These overwhelming alerts make it challenging to recognize and manage them. Therefore, we have to condense the amount of the alerts and external useful information from them. However, the NSA requires the alert analysis techniques to suggest high-level information such as how serious of attacks are and how dangerous of devices are and which attacks or devices require administrator to pay attention to. To deal with this problem we put forward a time and space based alert analysis technique which can correlate related alerts without background knowledge and offer attack graph to help the administrator understand the attack steps visibly and efficiently. And a threat evaluation is given to find the most hazardous attack, which further saves administrator's time and energy in handing out large amount alerts.

Keywords: DARPA IDS Evaluation Dataset, Intrusion Detection, NIDS, Snort.

References:

1. Fang Lan, Wang Chunlei, and MaGuoqing , "A Framework for Network Security Situation Awareness Based on Knowledge Discovery" 2010 2nd International Conference on Computer Engineering and Technology 2010 IEEE.
2. Juan Wang,Feng-li Zhang,Jing Jin,Wei Chen, "Alert Analysis and Threat Evaluation in Network Situation Awareness" 2010 IEEE.
3. Cyril Onwubiko ,"Functional Requirements of Situational Awareness in Computer Network Security" 2009 IEEE.
4. Liu Mixi, Yu Dongmei and Zhang Qiuyu et aI., "Network Security Situation Assessment Based on Data Fusion, " 2008 Workshop on Knowledge Discovery and Data Mining, 2008.
5. Wang Huiqiang, Lai Jibao, and Ying Liang, "Network Security Situation Awareness Based on Heterogeneous Multi-Sensor Data Fusion and Neural Network, " Second International Multisymposium on Computer and Computational Sciences, 2007 IEEE.
6. Mr. Marc Grégoire ,"Visualisation for Network Situational Awareness in Computer Network Defence" (2005). In Visualisation and the Common Operational Picture (pp. 20-1 - 20-6). Meeting Proceedings RTO MP-IST-043, Paper 20. Neuilly-sur-Seine, France: RTO. Available from: http://www.rto.nato.int/abstracts.asp.
7. Yu Dong and Frincke, D., "Alert Confidence Fusion in Intrusion Detection Systems with Extended Dempster- Shafer Theory, " 43rd ACM Southeast Conference, March 18-20, 2005.
8. J Hall, J Pei, Y Yin. Mining frequent patterns without candidate generation. 2000 ACM. SIGMOD int'IConf on Management of Data (SIGMOD'OO), DallaS, TX, 2000.

9. Bass, T., "Intrusion Detection Systems and Multisensor Data Fusion, Communications of the ACM, Vol. 43, No. 4, April 2000.
10. Jia Han, Micheline Kamber., “Data Mining concepts and techniques”, second edition 2006, Elsevier Inc.