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S. No	Volume-4 Issue-1, February 2016, ISSN: 2319-9598 (Online) Published By: Blue Eyes Intelligence Engineering & Sciences Publication Pvt. Ltd.		Page No.
1.	Authors:	Rozalina Chuturkova	1-8
	Paper Title:	Assessment of Air Pollution with Benzene and Benzo [A] Pyrene in Regions in North-East Bulgaria	
	<p>Abstract: An assessment is made of air pollution with benzene and benzo[a]pyrene (BaP) for the period 2007-2014 in three regions of North-East Bulgaria, where automated measurement stations for monitoring air quality are located. An urban station and a traffic oriented station in the city of Varna, as well as an industrially oriented station in the town of Devnya have been included. The seasonal, annual and diurnal variations of the benzene and BaP concentrations in air are studied. The results from the monitoring are processed applying Student-Fisher’s t-distribution criterion. The results reveal a descending trend in air pollution with benzene at the urban background station in the city of Varna and the industrially oriented station in the town of Devnya during the period of monitoring, with high statistical significance of the decrease ($0,001 \leq P \leq 0.05$). The average annual concentrations of benzene do not exceed the human health safety norm ($5\mu\text{g}/\text{m}^3$). At the traffic oriented station in the city of Varna the average annual concentrations of benzene and BaP vary, without delineating a specific trend. There are certain seasonal variations in benzene and BaP pollution – higher concentrations during the cold months of the year. The seasonal dynamics are supported by the diurnal variations of the pollutants. Measures are proposed for the reduction of carcinogenic pollutant emissions and a decrease in human exposure to them.</p> <p>Keywords: Benzene, BaP, air, pollution, seasonal variations.</p> <p>References:</p> <ol style="list-style-type: none">1. Air Quality in Europe – 2014 Report. European Environment Agency, Copenhagen.2. Brorstoröm-Lundén E. Polycyclic aromatic hydrocarbons in: Monitoring ambient air quality for health impact assessment, 1999, WHO Regional Publications, European Series, 112-118.3. Chuturkova R., Atmospheric Air Quality Management, 2014, TU – Varna, 248 p., I SBN: 978-954-20-0603-9.4. Chuturkova R., M. Stefanova, S. Radeva, D. Marinova. Technical engineering in industrial IPPC as a key tool for ambient air quality improvement. International Journal of Research in Engineering and Technology, 2014, vol. 3, No 8, 8-20.5. Chuturkova R., S. Radeva, M. Stefanova. 2014. Assessment of harmful emissions in the atmospheric air from the production of nitrogen and phosphate fertilizers. Sustainable Development, vol. 18, 128-133.6. International Agency for Research on Cancer, World Health Organisation, List of IARC Group 1 carcinogens.7. Khan M. F., M.T. Latif, C.H. Lim, N. Amil, S.A. Jaafar, D. Dominik, M.S.M. Nadzir, M. Sahani, N.M. Tahir. Seasonal effect and source apportionment of polycyclic aromatic hydrocarbons in PM2.5. Atmospheric Environment, 2015, vol. 106, 178-190.8. Law on Air Quality, State Gazette /Durzhaven Vestnik/, issue 45/1996 as amended in State Gazette /Durzhaven Vestnik/, issue 14/2015.9. Mahajan S. R. Air pollution from I.C. Engines & its Control. International Journal of Inventive Engineering and Sciences, 2013, vol. 1, No 11, 1-4.10. National Report on the State and Protection of the Environment, 2015, Sofia, Ministry of the Environment and Water Resources and водите, Executive Environment Agency.11. Ordinance № 11 on the Norms for arsenic, cadmium, nickel and polycyclic aromatic hydrocarbons in air, State Gazette /Durzhaven Vestnik/, issue 42/2007;12. Ordinance № 12 on the Norms for Sulfur Dioxide Carbon Oxide, Nitrogen Dioxide, Fine Dust Particles, Lead, Benzene, Carbon Oxide and Ozone in Atmospheric Air; State Gazette /Durzhaven Vestnik/, issue 58/2010;13. Petresku V., R. Ciudin, C. Isarie, L.I. Cioca, B. Trif, V. Nederita. The Impact of Traffic Related Pollution on Air Quality in Sibiu Region. Environmental Engineering and Management Journal, 2015, vol.14, No 11, 2637-2642;14. Radeva S., R. Chuturkova, M. Stefanova. Assessment of Measures for Reduction Harmful Emissions in Air from the Soda Ash Production Plant in Devnya, Bulgaria. International Journal of Engineering and Advanced Technology, 2015, vol. 4, No 5, 139-146.15. Silibello C., G. Calori, M.P. Costa, M.G. Dirodi, M. Mircea, P. Radice, L. Vital, G. Zanini. Benzo[a]pyrene modeling over Italy: comparison with experimental data and source apportionment. Atmospheric Pollution Research, 2012, vol. 3, 399-407.16. Tolis E.I., D.E. Saraga, M.K. Lytra, A.Ch. Dapathanasion. P.N. Bougaidis, O.E. Prekas-Patronakis. I.I. Ioannidis, J.G. Bartzis. Concentration and chemical composition of PM2.5 for a one-year period at Thessaloniki, Greece: a comparison between city and port area. Atmospheric Environment, 2015, vol. 113, 197-207.17. Tiwari V., Y. Hanai, S. Nasunaga. Ambient levels of volative organic compounds in the vicinity of petrochemical industrial area of Yokohama, Japan. Air Quality, Atmosphere and Health, 2010, vol. 3, No 2, 65-75.		
2.	Authors:	Rollie Jay R. Ortega, Norm Allen T. Siron, Kevin T. Mapalad, Heidrick S. Emano, Roselito E. Tolentino	9-14
	Paper Title:	Vector Multiplication Approach for Point of View Variations in a Mimicking Robotic Shoulder Using Microsoft Kinect	
	<p>Abstract: This study aimed to manipulate a robotic shoulder even while the user is varying its point of view by applying a vector multiplication and controlling it using a camera with depth sensor. The system acquired the motion of the user’s arm using Kinect sensor. The position of the user’s joints was obtained using the Kinect Skeletal Tracking of Kinect SDK. Through the use of Visual Studio, we used C# and create a program to acquire the values of the skeletal coordinates and that was used to calculate the vectors using Cross Product and then the angles using Dot Product of the Vector Multiplication. The angles obtained were sent to the microcontroller through serial communication and then converted to signals for the movement of servo motors of the robotic shoulder. The rotation of the servo motors was according to the angles given as input. The researchers concluded that the system is effective in acquiring the user’s shoulder angle for the mimicking of robotic shoulder for different point of views. Likewise, the researchers considered that the user’s actual shoulder angle is close to the robotic shoulder prototype angle.</p> <p>Keywords: Kinect, mimicking, robotic shoulder, vector multiplication.</p> <p>References:</p> <ol style="list-style-type: none">1. Rajesh Kannan Megalingam, Nihil Saboo, Nitin Ajithkumar, Sreeram Unny & Deepansh Menon. (2013). Kinect Based Gesture Controlled Robotic Arm: A research work at HuT Labs. Kollam, Kerala.		

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3.	<p>Authors: Pramod Bide, Harshal Bendale, Mohammed Murtuza Bhaiji, Siddhant Das</p> <p>Paper Title: A Survey on Students' Attendance Management System</p> <p>Abstract: Managing the attendance in various universities or any other educational institutions has been facing problems or some sort of shortcomings. The complexity and need of new improved methods for managing attendance needs to be understood for developing a near perfect management system for attendance. This paper mainly focuses on study of different approaches and techniques made to establish the system for recording and managing the attendance. Some suggested/implemented techniques use different set of hardware to perform and input the students' biometric verification and other technologies (for instance RFID) in to the system. The outcome of this paper is; it provides a study on the techniques to transform the students' data into a format suitable to carry out selection of information for desired result done or suggested by others.</p> <p>Keywords: Student Attendance, RFID, Biometric verification, Attendance management System.</p> <p>References:</p> <ol style="list-style-type: none"> Research Note, Automating Time And Attendance: Low Hanging Roi, Proceeding in Nucleus Research, January 2006. S. K. Jain, U. Joshi, and B. K. Sharma, "Attendance Management System," Masters Project Report, Rajasthan Technical University, Kota. Liu, Simon, Mark Silverman. "A Practical Guide to Biometric Security Technology." 2000. URL: http://www.computer.org/itpro/homepage/Jan_Feb/security1.htm (3 November 2001). Design of RFID Based Student Attendance System with Notification to Parents Using GSM - International Journal of Engineering Research & Technology (IJERT) Vol. 3 Issue 2, February – 2014.ISSN: 2278-0181 International Conference on Advanced Computing Technologies and Applications (ICACTA- 2015) Bluetooth Smart based Attendance Management System. Riya Lodhaa, Suruchi Guptaa, Harshil Jain, Harish Narulaa. (Journal Online Sources style) K. Author. (year, month). Title. Journal [Type of medium]. Volume(issue), paging if given. Available: http://www.URL R. J. Vidmar. (1992, August). On the use of atmospheric plasmas as electromagnetic reflectors. IEEE Trans. Plasma Sci. [Online]. 21(3). pp. 876–880. Available: http://www.halcyon.com/pub/journals/21ps03-vidmar 	15-17
4.	<p>Authors: Amit Kumar</p> <p>Paper Title: Standardisation in Software Defined Radio</p> <p>Abstract: Software Radio as a radio and communication technology has evolved with the evolution of digital electronics. It has undergone many changes in terms of technology and uses. With the advent and deployment of software defined radio (SDR) the radio is no longer the physical manufacturing of a single waveform but a computer host onto which different waveforms can be loaded. This paper provides an insight into the efforts to standardise the configuration and operation of software defined radio. The software communication architecture has been developed to assist in the development of SDR communication systems and captures the benefits of most recent technology advances to greatly enhance the interoperability of communication systems and reduce development and deployment costs.</p> <p>Keywords: Software Radio, Software Defined Radio, SCA, STRS, CORBA, ASI, POSIX, RTOS,</p> <p>References:</p> <ol style="list-style-type: none"> J. Mitola III, "Cognitive radio: An integrated agent architecture for software defined radio." PhD thesis, Royal Institute of Technology (KTH), Stockholm, Sweden, May 2000. www.wirelessinnovation.org JPEO JTRS (2011) SCA: application program interfaces (APIs) (http://sca.jpeojtrs.mil/api.asp) Reinhart RC et al (2007) Open architecture standard for NASA's software-defined space telecommunications radio systems (Proc IEEE 95:1986–1993) JPEO JTRS http://sca.jpeojtrs.mil/home.asp Bard J (2007) Software defined radio: the software communications architecture. Wiley, New York Ciaran McHale, CORBA explained simply http://www.ciaranmchale.com/corba-explainedsimply Eugene Grayver, "Implementing Software Defined Radio" Reinhart RC et al (2010) Space telecommunications radio system (STRS) architecture standard. NASA glenn research center, Cleveland, TM 2010-216809 	18-21
5.	<p>Authors: D.Y. Thorat, Shiv K Sahu, Amit Mishra</p> <p>Paper Title: Semi-Blind Gray Scale Image Watermarking Algorithm based on hybrid SVD-DWT using HVS Model</p>	

<p>Abstract: To achieve good imperceptibility and robustness, a hybrid image watermarking algorithm based on discrete wavelet transform (DWT) and singular value decomposition (SVD) is proposed using the characteristics of human visual system model for copyright protection and authenticity. In the proposed watermarking algorithm, one level DWT is applied to selected image blocks to obtain four sub-bands of each block and then the S component of low frequency sub-band (LL) obtained after SVD transformation is explored under different threshold values for embedding and extracting the watermark. The experimental results show that HVS model based hybrid image watermarking scheme is imperceptible and robust against several image processing operations like JPEG compression, median filtering, sharpening, cropping and addition of Gaussian noise. Peak signal to noise ratio (PSNR) and bit correction rate (BCR) are used to measure the quality of watermarked image and extracted watermark respectively.</p> <p>Keywords: Singular value decomposition, Discrete wavelet transform, Image watermarking, Copyright, Human Visual Model</p> <p>References:</p> <ol style="list-style-type: none"> 1. J. Cox, M. L. Miller and J. A. Bloom, Digital Watermarking, New York: Academic Press , 2002. 2. Cox, J. Kilian, F. T. Leighton and T. Shamoan, "Secure spread spectrum watermarking for ultimedia," IEEE Transactions on Image Processing, vol. 6, pp. 1673-1687, December 1997. 3. S. Walton, "Authentication for a slippery new age," Dr. Dobb's Journal, vol. 20, no. 4, pp. 18-26, April 1995. 4. C. Lu and H. Liao, "Multipurpose watermarking for image authentication and protection," IEEE Transactions on Image Processing, vol. 10, no. 10, pp. 1579- 1592, October 2001. 5. C. Y. Lin and S. F. Chang. "Semi-fragile watermarking for authenticating JPEG visual content," Proceedings of the SPIE International Conference on Security and Watermarking of Multimedia Contents II, San Jose, USA, vol.3971, pp.140-151, 2000. 6. S. Yang, Z. Lu and F. Zou. "A Novel Semi-fragile Watermarking Technique for Image Authentication," ICSP Proceedings, pp. 2282– 2285, 2005. 7. J. Huang, Y. Shi and W. Cheng, "Image watermarking in DCT: An embedding strategy and algorithm," Acta Electronica Sinic, vol.28, no.4,pp.57-60, 2000. (in Chinese) 8. X. Li, "Blocked DCT and quantization based blind image watermark algorithm," Computer Engineering, vol.32, no.21, pp.139-144, 2006. (in Chinese) 9. J. Zhang and C. Zhang, "Semi-fragile watermarking for JPEG2000 image authentication," ACTA Electronica Sinica, vol.32, no.1, pp.157-160, 2004. (in Chinese) 10. X. Wang, L. Meng and H. Yang, "Geometrically invariant color image watermarking scheme using feature points," Sci China Ser F-Inf Sci, vol.52, no.9, pp.1605-1616, September 11. Daxing Zhang, Zhigeng Pan" A Contour-based Semi-fragile Image Watermarking Algorithm in DWT Domain" IEEE2010 Second International Workshop on Education Technology and Computer Science 12. P. Fakhari, E. Vahedi, and C. Lucas, "Protecting patient privacy from unauthorized release of medical images using a bio-inspired wavelet-based watermarking approach," Digital Signal Processing, vol. 21, no. 3, pp. 433 – 446, 2011. [Online]. Available: http://www.sciencedirect.com/science/article/pii/S1051200411000170 13. Liu Bo, Yang Zhaorong. "Image Compression Based on Wavelet Transform" IEEE publication on 2012 International Conference on Measurement, Information and Control (MIC) 14. Sachin Mehta, Rajarathnam Nallusamy, Ranjeet Vinayak Marawar, Balakrishnan Prabhakaran. "A Hybrid Semi-Blind Gray Scale Image Watermarking Algorithm Based on DWT-SVD using Human Visual System Model" IEEE 2013 International Conference on Healthcare Informatics. 15. Ye Xueyi ,ang yunglu ,Zhang jing "A Robust DWT-SVD blind watermarking algorithm based on Zernike moment" iee 2014 conference communication security 16. Naderahmaderin Y. Beheti .S"Robustness of wavelet domain watermarking against scaling attack"IEEE 2015 international conference on CCECE 	<p>22-24</p>
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