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1.	Authors:	G Harish Babu, N Venkatram, N Giribabu		
	Paper Title:	Hybrid Kalman Filter Design for Inertial Sensor Signal Processing		
	Abstract: Gyroscope is a rotation rate sensor. Olden days gyroscopes includes mechanical parts like motors, gimbals etc. which has suffered with noises and low accuracy. Developments in fiber optics have made the interferometric FOG practically realizable and reliable compared to mechanical gyroscopes. The fiber optics based gyro results in good stability, high disturbance rejection and ensure good tolerance to noises. Different noises like photon shot noise, quantization noise, filter noise, thermal noise and bias error many other noises degrades the gyro performance. Significant effect of these noise s result in random walk, bias instability , power fluctuations etc .To overcome these noises denoising of gyro data play a crucial role in FOG. In this study kalman filter algorithm is used to denoise the FOG signal . The algorithm implemented here performs efficiently in both static and dynamic conditions. The existing KF algorithm is hybridized with adaptive moving average based dual gain kalman filter.In this study comparative study is made between different kf algorithms in both static and dynamic condition. In static condition three algorithms KF,ARMA KF & hybrid KF models are used for denoising the gyro data . Among all three algorithms hybrid model is provided to be more efficient. In case of dynamic condition kf algorithm is fails. ARMA model is used to identify the noise but fails in denoising the noise, where as hybrid kf model work efficiently this case. The denoising performance of hybrid model algorithm is validated on single axis FOG and three axis FOG with different input rotation rates. Keywords: Adaptive moving average, auto regressive moving average ,fiber optic gyroscope, kalman filter References: 1. S.Sabat,N.Giribabu,J.Nayak,K. Krishna Prasad , Characterization of fiber optic gyro and noise compensation using discrete wavelet transform of the 2nd international conferencing on emerging trends in engineering and technology (ICETET),2009,PP,909-913 2. C.Kownacki, optimization approach to adapt kalman filters for real time application of accelerometer and gyroscope signal filtering, Digit ,Signal process.21(1)(2011) 131-140. 3. J.Nayak ,fiber optic gyroscopes :from design to production ,appl.opt.50(25) (2011) E152-E161. 4. Yang Y.adaptively Robust Kalman filter with applications in navigation.science of geodesy-I.Guo chang Xu (ed),springier ,2010;49-82. ISBN-978-3-642-11740-4.			1-4
2.	Authors:	Hachimenum Nyebuchi Amadi		
	Paper Title:	Effective Earthing System in the Corrosive Soil of Niger Delta		
	Abstract: In order to perform its basic function of safeguarding life and property, every power system needs an earthing profile that is effective and efficient. Recent studies carried out in the Niger Delta show that its soil is corrosive and frequently attacks the earthing system thereby rendering same ineffective thus posing a great danger to human life and property. This paper reviewed several scholarly literature related to the study for possible causes of earthing system failures and found that corrosive soils, poor workmanship, wrong choice of earthing materials, lack of maintenance etc. were dominant factors hindering effective and sustainable earthing system in the Niger Delta. The paper, therefore, recommends the regular use of experienced workmen, choice of quality earthing materials, periodic testing, inspection and maintenance as strategies to improve the earthing condition in the area. Keywords: Corrosion, Earthing, Electricity, Niger Delta, Protection References: 1. Niger Delta Region: Land and People. Niger Delta Regional Development Masterplan, 2005. 2. Copper Development Association (CDA). "Earthing Practice." CDA Publication 119 February 1997. 3. Proper Selection of Earth Electrode in Corrosive Soil of Niger Delta. Afa, J.T., Research Journal of Applied Sciences, Engineering and Technology 3(4): 252-256, 2011. 4. Corrosion Costs and Preventive Strategies in the United States. Gerhardus H. K., Michiel, P.H.B., Thompson, N.G., Virmani, Y.P. and J.H. Payer. NACE International. Publication No. FHWA-RD-01-156. 5. Neutral Earthing and Power system Protection, Lehtonen, M. & Hakola, T., ISBN 952-90-7913-3, ABB Transmit Oy, Vaasa 1996. 6. An Investigation into Substation Grounding and Its Implementation on Gaza Substation, Hammuda, A., Nouri, H. and Al-Ayoubi, M. (2011). Energy and Power Engineering, 3, 593-599. 7. Earthing System Design for Small Hydropower (SHP) Station – A Review, Mehta, A.A.; S.N. Singh and M.K. Singhal. International Journal of Engineering and Technology, Vol. 4, No. 3, June 2012. 8. Preliminary Studies on the Geotechnical Characteristics of the Niger Delta sub-soil. Akpokodje, E.G. Eng. Geol. 26, (1989), 247 –25. 9. Environmental Impact Analyses of Gas flaring in the Niger Delta Region of Nigeria. Ubani, E.C. and Onyejekwe, I.M. American Journal of Scientific and Industrial Research, 2013. doi:10.5251/ajsir.2013.4.2.246.252. 10. Characteristics of soils for underground pipeline laying in the southwest Niger Delta.Uko, E. D., Benjamin, F. S. and I. Tamunobereton-ari, International Journal of Computational Engineering Research, Vol 04, Issue 5, May 2014. 11. A Study on Impact of Atmospheric Corrosion on different types of Metals. Vasant, P.C. and Bansal, G.K. International Journal of Chemical Sciences and Applications. Vol 4, Issue 1, 2013, pp 7-11. [Available at: http://www.bipublication.com/][Last accessed August 23, 2014]. 12. Why Study Corrosion, WSC 2010. Available at: http://www.corrosion-doctors.org/Why-Study/Introduction.htm. [Last accessed September 10, 2014]. 13. Investigation of corrosion of buried oil pipeline by the Electrical Geophysical Methods, Ekine, A.S. and G.O. Emujakporue, Journal of applied environmental management, Vol. 14(1) pp. 63-65, 2010. 14. Cathodic Protection of Buried Steel Oil Pipelines in Niger Delta, Ekott, E.J., Akpabio, E.J., and Etukudo, U.I.. Environmental Research Journal, 6(4):304-307, 2012. 15. Assessment of Coastal Soil Corrosivity Using Resistivity Tomography at Lekki. Lagos, Nigeria. Oyedele, K.F., Meshida, E.A., and C.C.Obidike. International Journal of Science and Advanced Technology. Volume 2 No 6 June 2012. 16. Soil Characteristics and Substation Earthing in Bavela State. Afa, J.T. and F.O. Ngobia. European Scientific Journal, March 2013 edition,			5-9

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