於具干擾有限的無線感測系統中行動式感測器尋跡效能之評估

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摘 要

感測器相結合的調度算法具有能源效益的機動目標追蹤與傳感器部署在無線感測器網絡的移動（無線感測器網絡），提出並研究了這篇論文。為了盡量減少錯誤的估計，感測器序列和最優感測器運動以前和決心，預計第一。此外，由於目標是隨時間變化以往擴展式卡門濾波器技術(extended Kalman filter, EKF)技術應用到預測的均方誤差(mean square error, MSE)的預測目標。最後，通過使用模擬場景有兩個機動目標跟蹤舉行，以驗證該算法的準確性。

關鍵詞 : 無線感測器網絡、擴展式卡門濾波、均方誤差、機動目標

目錄

參考文獻

[1] Valentine A. Aalo, George P. Efthymoglou, "Decision Fusion Schemes for Wireless Sensor Networks Operating in a Nakagami-m Fading Environment," Communications, 2009 IEEE 20th International Symposium on, pp. 2720 - 2724, 13-16 Sept. 2009.

[2] X. Wang, D. Wang, Y. Wang, D.P Agrawal, A. Mishra, "On Data Fusion and Lifetime Constraints in Wireless Sensor Networks," Communications, 2007. ICC'07. IEEE International Conference on, pp. 3942-3947, 24-28 June 2007.

[3] J. Lin, F. Lewis, W. Xiao, L. Xie, "Accuracy Based Adaptive Sampling and Multi-Sensor Scheduling for Collaborative Target Tracking," Control, Automatio, Robotics and Vision, 2006. ICARCV '06. 9th International Conference on, pp.1-6,5-8 Dec. 2006.

[4] S. Maheswararajah, S. Halgamuge, "Mobile Sensor ManagementFor Target Tracking," Wireless Pervasive Computing, 2007ISWPC'07. 2nd International Symposium on , pp. 506-510, 5-7Feb. 2007.

[5] S. Maheswararajah, S. Halgamuge, "Sensor Scheduling For Target Tracking Using Particle Swarm Optimization," Vehicular echnology Conference, 2006. VTC 2006-Spring. IEEE 63rd vol.2, pp.573-577, 7-10 May 2006.

[6] Wendong Xiao, Lihua Xie, Jianyong Lin, Jianing Li, "Multi-Sensor Scheduling for Reliable Target Tracking in Wireless Sensor Networks," ITS Telecommunications Proceedings, 2006 6th International Conference on, pp.996-1000, June 2006.

[7] S. Zhang, W. Xiao, M. H. Ang, C. K. Tham, "IMM Filter based Sensor Scheduling for Maneuvering Target Tracking in Wireless Sensor Networks," Intelligent Sensors, Sensor Networks and Information, 2007. ISSNIP 2007. 3rd International Conference on , pp.287-292, 3-6 Dec. 2007.

[8] F. Zhao, L. J. Guibas, Wireless Sensor Networks, an Information processing Approach, Elsevier(Singapore) Pte Ltd, 2004.

[9] Y. He, and Edwin. K. P. Chong, ”Sensor Scheduling for Target Tracking in Sensor Networks,”43ed IEEE conference on Decision and Control, pp. 743-748, Atlanties, Dec 2004.

[10] J. Evans, V. Krishnamurthy, "Optimal sensor scheduling for Hidden Markov models," Acoustics, Speech and Signal Processing, 1998. Proceedings of the 1998 IEEE International Conference on ,vol.4, pp.2161-2164, 12-15 May 1998.
[11] Haykin, S. ” Adaptive Filter Theory, ” Prentice Hall Inc. , 1991.
[12] W. Heinzelman, A. Chandrakasan, H Balakrishnan, “ An Application-Specific Protocol Architecture for Wireless Microsensor Networks ”, IEEE Transactions on Wireless communications, vol. 1, No. 4, October 2002.
[13] Hu··seyin O·· zgu··r Tan and I・brahim Ko··rpeog ˇ lu “ Power Efficient Data Gathering and Aggregation in Wireless Sensor Networks ” SIGMOD Record, vol. 32, No. 4, December 2003.
[14] Jianping Pan Y. Thomas Hou “ Topology Control for Wireless Sensor Networks ” MobiCom ’ 03, September 14 – 19, 2003, San Diego, California, USA. Copyright 2003 ACM 1-58113-753-2/03/0009.
[15] Eylem Ekici, Yaoyao Gu, Doruk Bozdag, “ Mobility-Based Communication in Wireless Sensor Networks ” 0163-6804/06/ 2006 IEEE IEEE Communications Magazine, July 2006.
[16] Yanzhong Bi “ Moving Schemes for Mobile Sinks in Wireless Sensor Networks ” 1-4244-1338-6/07/2007 IEEE.
[17] Liang Song, “ Architecture of Wireless Sensor Networks With Mobile Sinks:Sparsely Deployed Sensors ” IEEE Transactions on Vehicular Technology, vol. 56,No. 4, July 2007.
[18] X, Shan. J, Tan. "Mobile Sensor Deployment for a Dynamic Cluster-based Target Tracking Sensor Network" Intelligent Robots and Systems, 2005. (IROS 2005). 2005 IEEE/RSJ International Conference on, pp.1452-1457, Aug. 2005.