Abstract

In wireless sensor networks sampling time interval and the number of nodes involved in each stage of tracking are important factors which have high effect on the efficiency of target tracking applications. In this paper a new target tracking method has been proposed which at each time step employs two helpful tools. First, an extended Kalman filter (EKF)-based estimation
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technique to predict the tracking error and second, an energy consumption model to estimate energy consumption based on different number of nodes and sampling time intervals. By using these estimations, this method selects the best number of nodes and sampling time interval according to an objective function which is defined based on tracking accuracy and energy consumption.

Reference

- M. Kalandros, L. Pao. Covariance control for multisensor systems

Index Terms

Computer Science Wireless

Key words

Wireless sensor networks target tracking energy
consumption

tracking error