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Abstract

In wireless sensor networks (WSN), one of the important applications is object tracking. WSN is expected to provide the location of the detected object, and the real time location report. The sensors detecting the object need to transmit the sensing data and identification. In this paper, we propose to develop an energy efficient mobile data collector based technique which helps in tracking of an object. Within each cluster, the core sensors are selected based on the estimated signal strength since the nodes closer to the targets having larger measurements have a higher probability of becoming core sensors. The core sensors are used to compute the location of a target based on the locations of the neighboring nodes. These core sensors send this information to the corresponding cluster head, using which the target localization is processed.

The position of moving object is detected by object moving algorithm and then collected by the visiting mobile data collectors from the respective cluster heads. By simulation results, we show that the proposed tracking technique is energy efficient with improved packet delivery ratio.

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Index Terms

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