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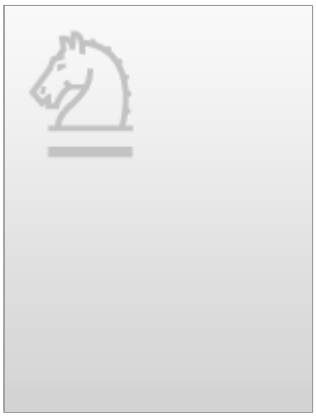
Maximizing Lifetime of Target Coverage in Wireless Sensor Networks Using Learning Automata

Abstract

In wireless sensor networks, when each target is covered by multiple sensors, we can schedule sensor nodes to monitor deployed targets in order to improve lifetime of network. In this paper, we propose an efficient scheduling method based on learning automata, in which each node is equipped with a learning automaton, which helps the node to select its proper state (active or sleep), at any given time. To study the performance of the proposed method, computer simulations are conducted. Results of these simulations show that the proposed scheduling method can better prolong the lifetime of the network in comparison to similar existing methods.



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