



Energy Aware Multi-path and Multi-SPEED Routing Protocol in Wireless Sensor Networks

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Wireless sensor networks are limited in energy. Any routing protocol
used in wireless sensor networks should consider the
time sensitive nature of the target. In such networks, along with the
amount of energy left for each sensor.

In this paper we present an energy aware multi-path delivery mechanism
for probabilistic Quality of Service (QoS) guarantee in wireless
sensor networks. Each node uses routing decisions based on
geographic progress towards the destination sink, required end-to-
end total reaching probability, delay at the candidate forwarding
node and residual energy. The simulation results demonstrate that the
proposed protocol effectively guarantees the energy aware efficiency of
the sensor network, maximizing the lifetime of the sensor
network while keeping guaranteed QoS.



Cellular Learning Automata based Scheduling Method for Wireless Sensor Networks

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Abstract

In wireless sensor network often micro-battery with very limited
power provides the energy of sensor nodes. Since sensors are usually
utilized in remote or hostile environments, recharging or replacing
the battery of the sensors is something quite undesirable or even
impossible. Thus long system lifetime is a must. Sleep scheduling is a
mechanism in wireless sensor network to save energy. In this paper,
we propose an energy-efficient distributed scheduling method
considering mobile target tracking also called dynamic target
coverage. The algorithm is based on cellular learning automata. In
this algorithm, each node is equipped with a learning automaton
which will learn (schedule) the proper on and off times of that node
based on the movement nature of a single moving target. To evaluate
the proposed method it is tested under straight with constant velocity
movement model of target. The results of experimentations have
shown that the proposed scheduling algorithm outperforms two
existing dynamic target coverage scheduling methods.