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Abstract
Wireless sensors are battery-powered sensing and computing devices. The battery power limits the communication range and service time. One way to conserve energy is to periodically make the sensors to go into sleep mode. In sleep mode, a wireless sensor turns off its radio module and waits some time to react the radio modules. Although the sessions in sleep can conserve energy, however, results in long transmission delay.
Duty cycle adjustment dominates the energy consumption and data transmission efficiencies. The long duty cycle design makes sensors take longer time to transmit data, which increases the energy consumption. The short duty cycle design makes sensors have low energy consumption rate, but increases the transmission delay. There are still some problems in duty cycle design of sessions in wireless sensor networks.
In this paper, a traffic adaptive MAC protocol for energy conserving in wireless sensor networks is proposed. The proposed MAC protocol in tends to provide better data transmission rate when sensors with high loading.
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