Abstract
One of the main sources of energy waste in Wireless Sensor Networks (WSN) is idle listening, i.e., nodes consuming energy to sample an idle channel. In this paper, we present a dynamic sleep time control method exploiting known traffic statistics to sample the channel more frequently when it is likely to have traffic and less frequently when it is not. When such information is not a priori available, we present an iterative algorithm to learn the statistics and adapt the sleep time control policy as time evolves. Simulation results are included to compare fixed sleep times to a dynamic control policy.