

Measuring Energy Consumption in Wireless Sensor Networks Using GSP

Maria Calle and Joseph Kabara

Abstract

The energy consumption rate for sensors in a wireless sensor network vary greatly depending on the protocols the sensors use for communication. The Gossip-Based Sleep Protocol (GSP) [2] is an example of a protocol that implements routing and some MAC functions in an effort to conserve energy. Simulations show that GSP can conserve energy. We expand on this effort by building a prototype system and measuring energy consumption rates. GSP was implemented on the Mica2 platform and measurements were conducted to determine energy consumption. The measurements were then used to build an energy consumption model for GSP.