Scaling Based Power Saving for Maximum Communication Path Lifetime in Wireless Sensor Networks

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**ABSTRACT**

The interest in Wireless Sensor Networks is rapidly increasing due to their interesting advantages related to cost coverage and network deployment. They are present in civil applications and in most Scenarios depend upon the batteries which are the exclusive power source for the tiny sensor nodes. The energy consumption is an important issue for research, and many interesting projects have been developed in several areas. They focus on topology topics, Medium Access Control or physical issues. In this paper, aim at the physical layer where the node's power consumption is optimized through scaling the modulation scheme used in node communications. Results show that an optimal modulation scheme can lead to the minimum power consumption over the whole wireless sensor network. A usual simplification in research is to target individual paths and not take into account the whole network.

**Keywords:** MAC, Power Consumption, WSN.