Invited Talk: Models and Methods for Maintaining Connectivity in Sensor Networks

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I. Abstract

In this talk we first present models for deployment and interactions of wireless sensor nodes and explore their properties (such as connectivity and wireless access). Then we focus on two methods for maintaining network connectivity. The first one uses energy balance (i.e., guaranteeing the same per node energy dissipation in the network towards avoiding its early disconnection due to energy depletion of bottleneck regions). The second method suggests an incremental deployment of (potentially heterogeneous) sensor nodes. Both methods incur significant gains and satisfactory trade-offs to several performance metrics.