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Simulations of Wireless Sensor Networks: A Survey

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Abstract

Simulators are important tools for the design, implementation and evaluation of sensor networks and have been the subject of intense research in the past decade. The resource constrained nature of sensor platforms as well as the unique working environments and deployment scenarios of sensor networks give special requirements and challenges to simulator design. More than 20 simulators have been developed for sensor networks by various research groups to address different problems and needs. In this paper, we first explore the requirements for a modern sensor network simulator. Then we study simulation techniques and classify existing sensor network simulators according to their architectures, designs and levels of abstractions. Finally, we discuss the future research directions of wireless sensor network simulators.

A copy of this technical report can be obtained by sending a request to zhjin@cs.ucsd.edu