

Vulnerabilities in Wireless Sensor Networks: Attacks and Countermeasures

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Abstract: *In wireless sensor networks, we look at routing security. There have been numerous sensor network routing protocols proposed, but none of them have been developed with security in mind. We propose security goals for sensor network routing, show how ad-hoc and peer-to-peer network attacks can be adapted into powerful sensor network attacks, introduce two new types of sensor network attacks—sinkholes and HELLO floods—and assess the security of all major sensor network routing protocols. We detail all of them as targets for debilitating attacks and offer countermeasures and design considerations. This is the first study of secure routing in sensor networks of its kind.*

Keywords: Wireless Sensor Networks

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