Reliable and Energy-Aware Data Forwarding under Sink-Hole Attack in Wireless Sensor Networks

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Abstract : Wireless sensor networks are vulnerable to attacks from adversaries attempting to disrupt their operations. Sink-hole attacks are a type of attack where an adversary node drops data forwarded through it and hence affecting the reliability and accuracy of the network. Since sensor nodes have limited battery power, it is essential that any solution to the sinkhole attack problem be very energy-aware. In this paper, we present a reliable and energy efficient scheme to forward data from source nodes to the base station while under sink-hole attack. The scheme also detects sink-hole attack nodes and avoid paths that includes them.