A Secure Routing Algorithm for Underwater Wireless Sensor Networks

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Abstract : Underwater wireless sensor networks have been attracting the interest of many researchers lately, and the past three decades have beheld the rapid progress of underwater acoustic communication. One of the major problems in underwater wireless sensor networks is how to transfer data from the moving node to the base stations and choose the optimized route for data transmission. Secure routing in underwater wireless sensor network (UWCNs) is necessary for packet delivery. Some routing protocols are proposed for underwater wireless sensor networks. However, a few researches have been done on secure routing in underwater sensor networks. In this article, a secure routing protocol is provided to resist against wormhole and sybil attacks. The results indicated acceptable performance in terms of increasing the packet delivery ratio with regards to the attacks, increasing network lifetime by creating balance in the network energy consumption, high detection rates against the attacks, and low-end to end delay.

Keywords : attacks, routing, security, underwater wireless sensor networks

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