

## Abstract Details

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**Title:** Hierarchical Routing Based Energy Efficient Protocols in Underwater Wireless Sensor Network: A Review

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**Abstract:** Underwater Wireless Sensor Networks are becoming popular day-by-day primarily owing to its adaptable as well as practical applications in real world such as ocean monitoring, mineral extraction, tactical surveillance and ocean monitoring etc. In a sensor network, efficient energy consumption by the sensor nodes is one of the most severe issues. As sensor nodes performs multiple tasks such as detection of events and routing the data to the surface nodes, so much of the battery of sensor nodes is consumed in receiving and transmitting packets. Henceforth, lifetime of battery is one of the determining factors of lifetime of a sensor node. To increase the lifetime of the sensor network, various hierarchical routing based energy efficient protocols are used. Due to the specific characteristics of underwater wireless sensor networks (UWSNs) such as dynamic structure of sensor nodes, narrow bandwidth, more energy consumption than sensor nodes at surface area, high latency etc., it is difficult to build energy efficient routing protocols for underwater wireless sensor networks. This paper presents a review on various hierarchical energy efficient routing protocols.

**Keywords:** Underwater Wireless Sensor Networks, Routing Protocols, Energy Efficiency.