Abstract

Underwater acoustic channels are band-limited and reverberant, posing many obstacles to reliable, phase-coherent acoustic communications. In terrestrial wireless sensor networks, the nodes use radio frequency (RF) to build up the communication. In underwater environments, due to water absorption, radio wave does not work well. Compared to radio waves, sound has superior propagation characteristics in water, making it the preferred technology for underwater communications. While many high frequency communication experiments have been conducted in shallow water, few have carried out systematic studies on the channel properties at a time scale relevant for communications.

This Research work describes the unique characteristics of the underwater environment and its effects on the design of UWSN. In addition, the differences between terrestrial WSN and UWSN are presented. Even though they are different, terrestrial WSN is still valuable on UWSN. Major challenges including power consumption, communication techniques, and routing protocols are discussed. These aspects are vital important to do future research on UWSN, especially
developing new generation UWSN.

**References**


**Index Terms**

Computer Science       Wireless

**Keywords**

RF, UWSN, WSN, UAWSN.