

139. ANALYSIS OF CDMA TECHNIQUE IN UNDERWATER ACOUSTIC WIRELESS COMMUNICATION

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An ideal fact is the large portion of earth is covered by means of water rather than earth surface. Yet, the communication over underwater is beyond from our intelligence than terrestrial which uses electromagnetic waves, radio waves for their communication. Unfortunately underwater remains inaccessible to these waves. Therefore acoustic waves are only feasible way to carry their information and data. Since under water acoustic communication is one of the most vital environments because it introduces the multi-path propagation results in inter-symbol interference, frequency selective fading and Doppler Effect. Code Division Multiple Access Technique may be used to minimize these channel effects because of its robustness against too limited bandwidth, frequency reuse compared to other techniques like FDMA and TDMA. By using the sweep signal in CDMA MAC Protocol, the better bit error rate can be achieved with minimum medium access delay.

Keywords—Code Division Multiple Access, Underwater Wireless Communication, Acoustic Waves, Chirp Signal, Bit error rate, Medium access delay.

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