Abstract

Underwater sensor network has different applications ranging from environmental monitoring, data collection to survey mission and coastal surveillance. In this paper several fundamental aspects of underwater acoustic communication are discussed in detail. Different architecture and channel model are also been discussed. This paper also covers the latest techniques which are used in order to increase the data rate in underwater acoustic communication. The performance of the energy detector which is considered for binary hypothesis decision fusion has been reviewed and analyzed on different parameters of the investigation. This paper is based on a MIMO model for underwater acoustic network using Neymen-Pearson/ Bayesian hypothesis testing. Previous investigation and the conclusion will be useful for possible future research direction.
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**Index Terms**

Computer Science  
Communications
Keywords

Decision Fusion, Energy detection, Multiple-input Multiple-output (MIMO), underwater sensor networks