ABSTRACT

The current project aims to design and implement an acoustic system for underwater communication. The current work combines a theoretical part, whose objective is to choose the appropriate techniques to deal with the characteristics of the targeted channel, and a practical part regarding the system deployment and experimental tests. The theoretical research has focused on Simulation of noise and loss models, Modulation detection techniques, channel estimation algorithms and Signal to noise Ratio (SNR). The practical part of the project consists of the implementation of the selected techniques, and the following sets of experiments: software simulations and comparison. The underwater system has been developed in MATLAB due to the advantages of thisapplication, in order to debug the program, tune the chosen parameters, and analyze results.