ABSTRACT

Delivery of information through the media of water had begun to be developed at this time. Primarily for military or maritime and transportation needs. Information signal transmitted through water media using acoustic signals. This is because under the water, the characteristics of the acoustic signal is better than radio and electromagnetic waves which used in wireless communication systems using the medium of air. Electromagnetic and radio waves can not reach long distances in the water medium because it will produce a very large damping, while the acoustic signal can reach long distances, although with limited speed and bandwidth. Therefore, further research is needed to optimize performance in its use acoustic signals under water. One way is to use a propagation model with the Kraken code. The aim of this thesis to determine characteristic acoustic signal propagation model, ray paths generated and the transmission loss that occurs with the use of propagation models Kraken. Kraken propagation model developed from the normal-mode range of the model and are independent, ie does not depend on the distance. In making the necessary model parameters such as speed of sound, density and temperature in water medium. And acoustic signal analysis will be done with the program AcTUP v2.2l Acoustic Toolbox in MATLAB 9.0.1. From the results of analysis show that the Kraken is depending on number of mode and can be used for large and small frequencies, between 50Hz – 1000Hz.

Keyword: underwater acoustic, propagation, acoustic toolbox, normal-mode
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