ABSTRACT

Most of the information signal transmission using electromagnetic waves. However, attenuation in aqueous media is much greater than the medium of air, hence the used of acoustic signals. Acoustic signal that propagates in water media will experience attenuation caused by density, temperature, and salinity.

In this Final Project, a research will be done to detect the location of a noise source using four hydrophone. Data recording done by a measurement in Towing Tank in Indonesian Hydrodynamic Laboratory (IHL), the speaker is used to output a signal (noise) and the signal will be received by the hydrophone array, then the recorded signal will be processed using beamforming method. This method is a common method of array signal processing to detect the location of noise sources and define the beam power of sound source using the distance between the source of the hydrophone, the speed of sound, the received power of each hydrophone, the signal reflected by the walls of the pool, etc.

Key words: underwater acoustic, beamforming, microphone array
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