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(Research Article)
Underwater acoustic modeling in the Gulf of Oman

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Abstract

Technologies related to underwater acoustics are used for underwater communication, determining the location and discovering unknown targets under the sea, depth finding, seabed mapping, shipping, navigation, etc. Estimating the effectiveness and efficiency of underwater acoustic equipment requires underwater acoustic modeling. In this research, in order to implement different scenarios of acoustic wave propagation modeling in the waters of the Gulf of Oman, different methods of solving acoustic equations and, accordingly, several acoustic models have been used. In the following, the results of these scenarios are examined and compared. The results show that the acoustic pressure obtained from the acoustic models are related to water depth, independent issues with frequency (low and high) and dependent on range (short or long).

Keywords: Gulf of Oman, Underwater acoustic, Sound propagation, Acoustic pressure.

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