The simulation of low-frequency noise intensity in the shallow sea

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Abstract: According to the variations of the complex environment, the fluctuations of the low-frequency noise intensity in the shallow sea are calculated. The PE is used as a propagation model to establish an ocean ambient noise intensity model under range-dependent environments, which can be used to calculate the noise intensity under the conditions of non-uniform distribution of surface noise sources and range-dependent environments. Using the measured data of ship and wind speed, considering different ship source level formulas and wind-generated noise source level model, the noise source levels are obtained. And the measured sound velocity profiles are used as the input parameters of the model to obtain the low-frequency ocean noise intensity varied with time in the shallow sea. Compared with the measured ambient noise, the variation trends are in good agreement.

   Key words: Ocean ambient noise; simulation of noise intensity; fluctuations

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