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Modeling of hydroacoustic propagation based on the normal mode-parabolic equation method

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Abstract: In view of the low accuracy of the far-field modeling of underwater explosion sound propagation, the normal mode-parabolic equation method is used to carry out the modeling of hydroacoustic propagation to optimize the ability of far-field propagation simulation. This method combines the advantages of the normal mode model method and the parabolic equation method, adopts local normal mode analysis in the vertical direction, and uses the parabolic equation method to solve the normal mode amplitude equation in the horizontal direction. This method can be used to simulate the sound propagation loss of underwater explosions, and combined with the sound velocity profile, the theoretical travel time of sound propagation can be calculated. This method solves the problem that the high frequency situation is hard to calculate with the parabolic equation method, and the algorithm is able to extended to three-dimensional simulation.

Promotional text

Use new method to optimize the ability of Modeling of hydroacoustic propagation.

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