



Abstract View

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Impingement of Internal Waves from Below onto a Moving Mixed Surface Layer

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ABSTRACT

Discussion of the generation of internal waves by tidal flow over bottom topography concludes that isobath convergence has an important effect on wave intensity near the sea surface, and also predicts that all harmonics of the tide will be present in the emitted waves.

A simple analysis of the reflection of internal waves by a moving surface layer predicts that the surface layer disturbance will be amplified by, at the most, a factor of 2, and that this amplification is selective in wavenumber. For waves near inertial frequency, the impinging wave can excite disturbances that grow exponentially with time. Data from the GATE experiment show a clear tidal signal in isotherm depths near the thermocline and a possible inertial period variation as predicted by the simplified case analyzed.

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