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An experimental investigation of evanescent wave propagation through a turning depth ALLISON LEE, JULIE CROCKETT, Brigham Young Univ - Provo — One well known method of internal wave generation is tidal flow over oceanic bathymetry. However, in some locations, the natural frequency of the deep ocean is less than the tidal frequency and thus only evanescent waves are generated. While evanescent waves generally dissipate quickly after formation, it is been observed that if these waves travel into a stronger stratification evanescent waves can become a propagating internal waves. Here we present an experimental investigation of this internal wave generation mechanism. Specifically, internal wave energy transfer through a turning depth for a range of topography shapes, stratification profiles, and turning depth locations is explored. Energy transfer from evanescent to propagating waves is found to occur for both linear and exponential stratifications and increases as the turning depth approaches the topography.

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