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**Internal Waves Generation from Tidal Currents Coupling with Existing Waves** YONG LIANG, MOHAMMAD-REZA ALAM, University of California Berkeley — Here we report a new mechanism for generation of internal gravity waves through resonance, owing to tidal currents coupling with existing waves. The new waves feature with the same wave number vectors as the existing ones and frequencies higher by the tidal frequency. They grow exponentially in time by continuously extracting energy from the tidal currents until wave breaking occurs. We prove that this mechanism is possible in any stratified ocean with smooth density profiles.

yong liang  
University of California Berkeley

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