

## M<sub>2</sub> Internal Tide Generation and Propagation Modulated by Kuroshio to the Northeast of Taiwan

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The Luzon Strait and the area northeast of Taiwan are both prominent sources of internal tides among global ocean. The M<sub>2</sub> internal tides originated from Luzon Strait and their radiation processes into the South China Sea have attracted much attention, but few studies have been conducted on the area to the northeast of Taiwan. In the present study, generation, propagation and dissipation processes of M<sub>2</sub> internal tides to the northeast of Taiwan are revealed through high-resolution numerical simulations. The Kuroshio are found to play important roles in modulating the lifecycle of M<sub>2</sub> internal tides in this area. Interference processes and various topographical features clearly enhance M<sub>2</sub> internal tide dissipation and induce strong, inhomogeneous vertical mixing, which is an important factor in energy cascading processes.