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Modeled acoustic propagation through a measured large-amplitude nonlinear internal wave in northern South China Sea

Peng Qi

(pqi@qdio.ac.cn)

Preliminary results are presented from an analysis of modeled mid-frequency sound propagation through a measured large-amplitude nonlinear internal solitary wave, and in-situ measurements of trains of nonlinear internal waves in northern South China Sea (SCS) as well. An acoustic propagation model based on ray theory was utilized to compute the transmission loss (TL) associated with passing the large depression measured internal waves. The TL was computed using the model considering (1) range-dependent and range-independent environmental scenario and (2) for different source and receiver depth configurations. This presentation will propose several interesting aspects of influence of internal waves on acoustic propagation, including "shadow zones", with or without eddy, etc.