



Reduced models for nonlinear wave interaction with large amplitude topography

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Starting from the 2D Euler equations there are many ways to obtain reduced models governing the nonlinear dynamics of the interface, namely of surface or internal waves. Of particular interest are accurate and reliable reduced models in the extreme case of large amplitude, rapidly varying, non-smooth topographies. In this regime many researchers have explored random modeling for the disordered features of the bottom profile. I will present recent research with collaborators, for the particular case of nonlinear internal waves in the presence of large amplitude disordered topographies.