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Stochastic Wave Breaking Dynamics[1] JUAN RESTREPO, Oregon State Univ, JORGE RAMIREZ, Universidad Nacional de Colombia, Sede Medellin — Wave breaking dynamics in the Lagrangian frame, using numerically-generated data as well as laboratory data, is described and analyzed. Models that combine deterministic macroscale dynamics and stochastic microscale process are proposed. The dependency of irreversible processes on the frequency and the amplitude of the waves is revealed. The long term goal of this research enterprise is to produce a model for dissipation of wave and current energy at large spatio-temporal scales, due to the microscale breaking and whitecapping of waves.

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