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Tulin Kaman* (tkaman@uark.edu), University of Arkansas, Department of Mathematical Sciences, SCEN 218, Fayetteville, AR 72701. *Numerical challenges in turbulent mixing simulations.*

In this talk, we address the issue to characterize and quantify the effects of uncertainties in model parameters in the numerical simulations of turbulent mixing of miscible fluids. We compare new simulations and their analysis with experiments of Rayleigh-Taylor instabilities, using the front-tracking based software code and study the statistical convergence properties. (Received September 04, 2018)