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Simulation of the Taylor Instability in a Loosely Coupled Dusty Plasma KATHERINE PACHA, University of Iowa — Lord Rayleigh showed that the interface between two fluids of different densities, with the dense fluid above a fluid of lesser density, is unstable to the growth of downward moving irregularities which develop into finger-like structures. In turn, Taylor showed that this situation is equivalent to one in which a lighter fluid is accelerated into a heavier fluid. I used a (2D) general hydrodynamic code, to model the Rayleigh Taylor Instability in a loosely coupled dusty plasma using the conditions from [1]. Other aspects of the instability were studied such as the effect of shear in how the instability starts, the formation of the bubbles, and the turbulent state.

[1] K. Pacha, et. al, Phys. Plasmas **19**, 014501 (2012).

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