

Abstract Submitted  
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**Modeling of Late-Time Low Atwood Rayleigh-Taylor Experiments at OMEGA**<sup>1</sup> T. HANDY, University of Michigan, G. MALAMUD, NRCN, Israel, L. ELGIN, University of Michigan, C.M. HUNTINGTON, LLNL, M.R. TRANTHAM, C.C. KURANZ, D. SHVARTS, R.P. DRAKE, University of Michigan — Numerical simulations have shown a reacceleration phase of the Rayleigh-Taylor instability (RTI) at low Atwood numbers, during which the bubble and spike Froude numbers deviate from their expected asymptotic values [1]. Currently, there is no experimental validation of those results. Therefore, we propose a new HEDP experiment for late-time evolution of low Atwood number RTI. In this work, we present numerical simulations of our experimental RTI system. We compare our results to spike and bubble velocities provided by potential theory and buoyancy-drag models. Additionally, we identify aspects of the low Atwood RTI system that will influence experimental outcomes. [1] P. Ramaprabhu et al., Phys. Fluids 24, 074107 (2012)

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Timothy Handy  
Univ of Michigan - Ann Arbor

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