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Computational Parametric Study of R-M Instability Growth for an Inclined Interface¹ JACOB MCFARLAND, DEVESH RANJAN, Texas A&M University, JEFF GREENOUGH, Lawrence Livermore National Laboratory — An inclined interface perturbation is studied for an RM instability to model upcoming experiments in the Texas A&M inclined shock tube facility. Simulations were created using the ARES code developed at Lawrence Livermore National Lab. A parametric study was performed for inclination angles from 30 to 60 degrees, incident Mach numbers of 1.5 to 2.5, and high Atwood number gas pairs air-SF6 and helium/SF6. Qualitative results are examined to show the relative effects of these parameters. Interface growth rates are calculated and compared to the existing linear growth regime models. A new model is proposed based on the interface geometry and compared to the simulation results.

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