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Experimental investigation of late time Rayleigh—Taylor mixing at high Atwood number PRASOON SUCHANDRA, MARK MIKHAEIL, DEVESH RANJAN, Georgia Inst of Tech — Dynamics of late time, high Reynolds number (Re >20000) Rayleigh–Taylor (RT) mixing is studied using statistically steady experiments performed in a multi-layer gas tunnel. The density ratio of air and air-Helium mixture used in the present experiment results in an Atwood number ˜0.73. Three types of diagnostics — back-lit visualization, hot-wire anemometry and stereo particle image velocimetry (S-PIV) — are employed to obtain mixing width, velocity and density fields, with S-PIV employed for the first time for such experimental conditions. Velocity and density statistics, and their correlations (*u', v', w',* $\rho', \rho' v'$) are presented. Calculations of probability density functions (p.d.f.s) and energy spectra are made to provide further insight into the flow physics. Energy budget of the flow is also discussed. Reference: AKULA, B. & RANJAN, D. 2016 Dynamics of buoyancy-driven flows at moderately high Atwood numbers. *Journal of Fluid Mechanics 795, 313–355.*

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