Abstract Submitted
for the DFD15 Meeting of
The American Physical Society

Effect of Inhomogeneous Flow on Rayleigh Taylor Instability SUDIP SEN, College of William & Mary, National Institute of Aerospace (NASA) & Jarvis Christian College — The effect of inhomogeneous flow on the stability of Rayleigh-Taylor (RT) mode is investigated in the presence of realistic flow profile which includes both flow shear (first order radial derivative) and flow curvature (second order radial derivative). It is found that contrary to the usual believe the flow curvature has robust effect on the stability of the RT mode - depending on the sign the flow curvature could be stabilizing or destabilizing. The consequence of this novel finding in various interdisciplinary areas will be discussed.

Sudip Sen
College of William & Mary,
National Institute of Aerospace (NASA) &
Jarvis Christian College

Date submitted: 01 Aug 2015 Electronic form version 1.4