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John W. Grove* (jgrove@lanl.gov), CCS-2, MS D413, Los Alamos National Laboratory, Los Alamos, NM 87545, and **Thomas Masser** (tmasser@lanl.gov), CCS-2, MS-K784, Los Alamos National Laboratory, Los Alamos, NM 87545. *Turbulent Mixing in Imploding Richtmyer-Meshkov Instability.*

We study imploding Richtmyer-Meshkov instability to understand the effect of the numerical flow model on late time mixing dynamics, in particular sharp interfaces vs. mixed cell pressure-temperature equilibrium. For early times the models behave similarly, but show completely different late time mixing structures. Mixed cell treatments are dominated by a few fully mixed well defined vortices, while sharp interface treatments show fragmented materials with large temperature spikes and a many fine scale vortices. (Received August 21, 2007)