

Abstract Submitted
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RANS Initialization and Validation in Shock-Driven Turbulent Mixing FERNANDO GRINSTEIN, BRIAN HAINES, JOHN SCHWARZKOPF, Los Alamos National Laboratory — We investigate a working framework for testing unsteady engineering model initialization and closures based on comparing moments extracted from ensemble-averaged 3D LES data and those predicted directly by a 2D, variable-density, compressible, RANS model. The particular focus is shock-driven turbulent material mixing, and the prototypical case considered is the inverse chevron shock-tube configuration for which laboratory and LES studies have been previously reported. LES results are validated through comparison with previous LES and available experimental data; sensitivity to initial material interface conditions, grid resolution, model, and closure specifics are examined.

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