

Abstract Submitted
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Solution of Reactive Compressible Flows Using an Adaptive Wavelet Method¹ ZACHARY ZIKOSKI, SAMUEL PAOLUCCI, JOSEPH POWERS, University of Notre Dame — This work presents numerical simulations of reactive compressible flow, including detailed multicomponent transport, using an adaptive wavelet algorithm. The algorithm allows for dynamic grid adaptation which enhances our ability to fully resolve all physically relevant scales. The thermodynamic properties, equation of state, and multicomponent transport properties are provided by CHEMKIN and TRANSPORT libraries. Results for viscous detonation in a H₂:O₂:Ar mixture, and other problems in multiple dimensions, are included.

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Samuel Paolucci
University of Notre Dame

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