

Abstract Submitted
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Predictions of Transverse Injection of Air or Helium into Supersonic Crossflow.¹ C. RANDALL TRUMAN, AMOL PALEKAR, PETER VOROBIEFF, Univ. of New Mexico — Predictions of a sonic jet of air or helium injected into a Mach 2 crossflow are presented. The injection is transverse, characterized as a jet in crossflow (JICF). The Wilcox two-equation model was used to model turbulence. The predictions are steady and symmetric about the center of the circular injection hole. Results from the two cases are compared with ensemble-averaged experimental results by Gruber et al. (1996). Predictions of shock structures, including the barrel shock and Mach disk, and the counter-rotating vortex pair that dominates mixing are in good agreement with the experiment

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