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Implementation and Validation of a MILES Solver for the Simulation of Supersonic Jet Flow[1] ANDREW CORRIGAN, JUNHUI LIU, K. KAILASANATH, RAVI RAMAMURTI, Naval Research Laboratory — A new MILES (Monotonically Integrated Large-Eddy Simulation) solver has been developed for the simulation of supersonic jet flow and its acoustic properties. The solver uses a finite volume discretization together with the FCT (Flux-Corrected Transport) convection scheme. In order to validate the code, a number of benchmark runs have been performed and compared to those obtained using an FCT solver from the finite element code FEFLO [Liu et al, AIAA, 2009]. The runs use identical input flow conditions and geometry, and include a convergent-divergent nozzle with both over- and under-expanded flow.

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Andrew Corrigan
Naval Research Laboratory

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