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Jeffrey W. Banks* (jwbanks@sandia.gov), PO Box 5800, Albuquerque, NM 87185-1322. *High Speed Flow Solvers for Overlapping Grids.*

In this talk we discuss the implementation of high Mach number compressible flow solvers in the context of overlapping grids. The overlapping mesh infrastructure is discussed, including general characterization of structured overlapping meshes, adaptive mesh refinement, and relative mesh motion. Two classic high speed flow solvers, a high resolution Godunov type method and flux-corrected transport, are presented, suitably modified for overlapping meshes, and a series of test problems are presented to showcase the relative virtues of each scheme. Finally a set of more complicated problems is introduced and the results obtained using each scheme are compared. (Received August 21, 2007)