FDF in US3D COLLIN OTIS, University of Pittsburgh, PIETRO FER-
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sity of Pittsburgh — The scalar filtered mass density function (SFMDF) methodol-
ogy is implemented into the computer code US3D. This is an unstructured Eulerian
finite volume hydrodynamic solver and has proven very effective for simulation of
compressible turbulent flows. The resulting SFMDF-US3D code is employed for
large eddy simulation (LES) on unstructured meshes. Simulations are conducted of
subsonic and supersonic flows under non-reacting and reacting conditions. The con-
sistency and the accuracy of the simulated results are assessed along with appraisal
of the overall performance of the methodology. The SFMDF-US3D is now capable
of simulating high speed flows in complex configurations.

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