

1032-65-176

Jan Nordstrom* (Jan.Nordstrom@foi.se), Department of Computational Physics, FOI, SE-164 90 Stockholm, Sweden. *Stable interface treatment for the Euler and Navier-Stokes equations*. Preliminary report.

We show how a stable and accurate hybrid procedure for fluid flow in complex geometries can be constructed. We briefly discuss the coupling of the finite difference and finite volume methods for both the Euler and Navier-Stokes equations.

Two separate solvers, one using high order finite difference methods and another using the node-centered unstructured finite volume method are coupled in a truly stable way. The two flow solvers run independently and receive and send information from each other by using a third coupling code.

The procedure above is verified by considering exact solutions and exemplified on a large scale application case. (Received August 21, 2007)