Implicit LES using the Embedded Discontinuous Galerkin method JOHN MOORE, FlowEDG — High order methods have been gaining greater traction in the CFD community recently, and are believed to be especially well-suited to vortex-dominated flows and Large Eddy Simulation (LES). However, realizing the theoretical performance of these methods has been difficult, in part due to the time step restrictions of explicit methods and the large number of coupled degrees of freedom arising from implicit high order schemes. In this presentation, the development and efficient implementation of an implicit high-order solver based on the Embedded Discontinuous Galerkin (EDG) method,[1] which requires less coupled degrees of freedom than standard DG, is detailed. Results are presented for several external flow cases and validated against experimental results.

[1]Peraire *et al.* AIAA-2011-3228

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