Abstract Submitted
for the DFD14 Meeting of
The American Physical Society

A DG-FDF Large Eddy Simulator SHERVIN SAMMAK, University of Pittsburgh, NASEEM ANSARI, University of Pittsburgh, ANSYS Inc, PEYMAN GIVI, University of Pittsburgh, MICHAEL J. BRAZELL, DIMITRI J. MAVRIPLIS, University of Wyoming — A new computational methodology is developed for large eddy simulation of turbulent flow in complex geometries. This is a hybrid methodology in which a discontinuous Galerkin (DG) base flow solver is combined with a Lagrangian Monte Carlo solver for the filtered density function (FDF). The advantage of the DG is that it provides high order accuracy with fewer degrees of freedom. It also provides flexibility of implementation on unstructured grids. The resulting DG-FDF solver is shown to be very useful for LES of turbulent flows.

Shervin Sammak
University of Pittsburgh

Date submitted: 01 Aug 2014　　　　　　　　　　Electronic form version 1.4