1014-65-1570   **Faranak Pahlevani*** (`faranak@math.montana.edu`), Department of Mathematical Sciences, Montana State University, Bozeman, MT 59717, and **Lisa Davis Stanley** (`davis@math.montana.edu`), Department of Mathematical Sciences, Montana State University, Bozeman, MT 59717. *Sensitivity Analysis and a Second Order Semi-Implicit Scheme for Large Eddy Simulation.*

Parameter sensitivity analysis and computations has become a very important tool in the analysis of fluid behavior over the recent years. We discuss the application of sensitivity analysis in specifying the reliability of the computed flow solution using Large Eddy Simulation (LES) with respect to the selected cut-off length scale. In addition, we introduce a combination of implicit and explicit second order time discretization scheme for LES models and its sensitivity. We further study the impact of adding a controller to a flow system from the numerical point of view. (Received September 28, 2005)