ON SOME ASPECTS OF THE SPACE-TIME DISCONTINUOUS GALERKIN METHOD

Miloslav Feistauer
Charles University Prague, Faculty of Mathematics and Physics
Sokolovska 83, 186 75 Praha 8 Czech Republic
e-mail: feist@karlin.mff.cuni.cz

Abstract

The contribution will be concerned with analysis and applications of the space-time discontinuous Galerkin method for the numerical solution of nonlinear convection-diffusion problems and compressible flow. First, we shall discuss the stability and error estimates of this method applied to a scalar model equation. Then the method will be adapted to the simulation of compressible flow in time-dependent domains and fluid-structure interaction. Some results of numerical experiments will be presented.