Finite element simulation of interaction of compressible flow and a moving airfoil

Jan Cesenek[1] Miloslav Feistauer[2]

This paper deals with the formulation of a numerical scheme for solving compressible flow past moving bodies. We use the discontinuos Galerkin finite element method for the space semi-discretization and the Euler backward formula for the time discretization. Moreover, we use ALE mapping for the treatment of a time depended domain. We shall present computational results obtained for the flow past a vibrating airfoil.

[1]Charles University Prague,Faculty of Mathematics and Physics, Czech Republic, jan.cessa@seznam.cz

[2]Charles University Prague,Faculty of Mathematics and Physics, Czech Republic, feist@karlin.mff.cuni.cz