Analysis of Sobolev discontinuous Galerkin

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April 2, 2017

Abstract

In this talk, we introduce a novel class of discontinuous Galerkin (dG) methods, called Sobolev dG to solve hyperbolic PDE. Sobolev dG allows for large time steps. We present the eigenvalue analysis for large time steps, stability analysis, as well as numerical dissipation and dissipation analysis.