

UNIVERSITY of HOUSTON

Department of Mathematics

Scientific Computing Seminar

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**Energy-based discontinuous Galerkin discretization
of regular hyperbolic systems**

Thursday, November 14, 2024
1 PM- 2 PM
Room 646 PGH

Abstract: Regularly hyperbolic systems provide a natural analog to Friedrichs systems for second-order formulations of wave propagation problems. We propose a general framework for constructing provably stable discontinuous Galerkin discretizations for these systems. In this talk, I will discuss the application of the proposed discretization to both linear and semilinear problems, along with an analysis of their stability and convergence. In addition, I will discuss methods for reducing the numerical stiffness of the resulting scheme.