Multidisciplinary Simulation, Estimation, and Assimilation Systems
Seminar Series

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Discontinuous Galerkin Methods in Nonlinear Dynamics

Applications in hurricane storm surge, estuary eutrophication,
morphodynamics, and plasma physics

Abstract: Discontinuous Galerkin methods offer some advantages over standard finite element methods. This talk will be an overview of some of the engineering problems we are focused on at present. The first is large scale hurricane storm surge, with an eye towards optimization and real-time emergency forecasting. Next, the topic of "dead zones" in the Gulf of Mexico - areas where algae bloom due to an overabundance of local nutrients. We will also discuss topics arising in geophysical morphodynamics, such as coastal and island erosion. If time permits we will also briefly discuss a new project in nuclear fusion, and the new magnetic confinement plasma being designed at the ITER tokamak.

Thursday, Feb. 28, 2013
12:00PM; Rm. 5-314

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