

UCCS Mathematics

Colloquium

Thursday, August 23rd, 2012

UC 307

12:30 pm – 1:30 pm

(Refreshments at 12:15 pm)

Natasha Flyer, N.C.A.R.

Improving Numerical Accuracy for Solving Evolutionary PDEs in the Presence of Corner Singularities

Abstract: Rarely is initial and boundary data compatible with the evolutionary PDE in the corners of the spatial-temporal domain. These incompatibles introduce errors that destroy the exponential accuracy of spectral methods. For evolutionary equations, these errors can be localized in time, in both space and time or in neither, depending on the properties of the PDE. We will examine three numerical techniques to improve accuracy in the face of these ever-present corner singularities.

