

Graduate Seminar in Mathematics

Ronald D. Haynes

**Thursday, November 27th, 2014
1:00-2:00 pm, HH-3017**

Adaptive Meshes and Domain Decomposition

Abstract:

Adaptive meshes are used to obtain efficient solutions to PDEs whose solutions vary on disparate time and space scales. In this talk I will review the basic idea of equidistribution - a technique to generate adaptive meshes in one dimension, and the idea of domain decomposition - a divide and conquer method to solve PDEs in parallel. I will then review some recent theoretical results on the convergence of domain decomposition approaches for the generation of equidistributing grids. And end with a summary of problems currently being studied by my graduate students.