Numerical zoom for localized multi-scale problems

Thursday, Feb. 14, 2013
3:00 PM- 4:00 PM
Room 646  PGH

Abstract: We investigate the Schwarz’ domain decomposition algorithm for numerical zooms. Error estimates are given for non-matching meshes for elliptic and parabolic partial differential equations. The method is applied to the security assessment of the burial of nuclear waste which is a typical multiscale problem for porous media flow. Extension to Navier-Stokes equations will be discussed. This is joint work with Alexei Lozinski and it is related to the work of Roland Glowinski, Jiwen He and Jacques Rappaz.