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Computational Mathematics Seminar Series

Numerical Approximations for a Singular Elliptic Variational Inequality**Yi Zhang, University of North Carolina at Greensboro**

Assistant Professor

Digital Media Center 1034
March 06, 2018 - 03:30 pm**Abstract:**

The displacement obstacle problem of simply supported plates is an example of a fourth order variational inequality. As the bending rigidity tends to zero the problem degenerates to an elastic membrane obstacle problem which is a second order variational inequality. In this talk we will introduce C0 interior penalty methods for this singular perturbed problem with small parameter. Robust error estimates with respect to the parameter will be presented. We also discuss the convergence of numerical solutions to the unperturbed second order elliptic variational inequality. This is joint work with Susanne Brenner and Li-yeng Sung.

Speaker's Bio:

Yi Zhang received his Ph.D. in Mathematics from Louisiana State University. He is currently an assistant professor at the University of North Carolina at Greensboro. He is interested in developing numerical solutions for deterministic and stochastic partial differential equations. His current research interests include finite element methods, variational inequalities, PDE-constrained optimization and numerical optimization.

This lecture has refreshments @ 03:00 pm