A Very Quick Look at Galerkin Methods for Poisson’s Equation in One Dimension

Dr. Robert G. Brown

University of Mary Washington

Abstract: Within a solid region, heat can flow from regions of high temperature to regions of low temperature via the process of conduction. The steady state equation which describes this flow is Poisson's equation. A basic Galerkin Method for obtaining the approximate solution of the one-dimensional Poisson equation with Dirichlet boundary conditions is examined, an estimate for the approximation error is provided, and the process demonstrated with numerical experiments.

Monday, November 5 at 3:45 in Roop 103
refreshments at 3:30