



Announcing

A Mathematics Seminar

September 18, 2009 at 2:00 pm

Southern Hall 303

at The University of Southern Mississippi

Speaker: Der-Liang Young

Department of Civil Engineering
National Taiwan University

Title: Least Squares Method of Fundamental Solutions for Acoustic Modes

Abstract:

The method of fundamental solutions (MFS) has been proved to be an accurate and efficient meshless numerical method to solve acoustic eigenproblems. Traditionally, it is found that the mode shapes are sensitive to the locations of source points by the MFS. In this study, we try to derive a meshless robust numerical scheme to obtain the contours of acoustical modes based on the least squares method of fundamental solutions (LSMFS) by specifying an additional normalized dual boundary condition. Moreover, it is demonstrated that the mode shapes of degenerate eigenmodes can be distinguished by specifying the boundary data at different boundary points. Numerical experiments are carried out to validate the proposed method. Mode shapes obtained by the LSMFS are in good agreement with the analytical solutions and also the results by the finite element method (FEM).

Further Information

Further details and information about this and other departmental activities is available online at http://www.math.usm.edu/bulletin_board/.