



Announcing

A COS 740 Seminar

Friday, October 5, 2007 at 2:00 pm

SH 303

at The University of Southern Mississippi

Speaker: Chia-Ming Fan

The University of Southern Mississippi

Title: FDMFS for diffusion equation with unsteady forcing function

Abstract:

A novel numerical scheme called (FDMFS), which combines the finite difference method (FDM) and the method of fundamental solutions (MFS), is proposed to simulate the diffusion problem with an unsteady forcing function. We proposed the FDM with Cartesian grid to handle the nonhomogeneous term of the equations. The numerical solution in FDMFS is decomposed as a particular solution and a homogeneous solution. The particular solutions are constructed using the FDM in an artificial regular domain which contains the real domain, and the homogeneous solutions can be obtained by the time-space unification MFS in the problem domain. Numerical experiments are presented for 2D problems in regular and irregular domains to show the high performance of the proposed scheme.

Further Information

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