APPLIED MATHEMATICS COLLOQUIUM

INHERENTLY PARALLEL FULLY THREADED TREE (FTT) AND ITS APPLICATION TO MESH REFINEMENT AND SIMULATIONS OF THERMONUCLEAR SUPERNOVA EXPLOSIONS

ALEXEI M. KHOKHLOV

The University of Chicago

ABSTRACT:

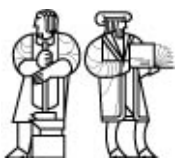
I will describe a parallel tree structure with inverted direction of pointers, and its use in adaptive mesh refinement (AMR) simulations on parallel machines.

Type Ia Supernovae are thermonuclear explosions of degenerate stars. I will briefly review the explosion mechanism of these supernovae and illustrate some of its aspects with results of reactive flow fluid dynamics simulations of Type Ia events.

MONDAY, MAY 7, 2007
4:30 PM
Building 2, Room 105

Reception at 4:00 PM in Building 4, Room174
(Math Majors Lounge)

Applied Math Colloquium: http://www-math.mit.edu/amc/spring07
Math Department: http://www-math.mit.edu



Massachusetts Institute of Technology
Department of Mathematics
Cambridge, MA 02139