McMaster University   University of Toronto   University of Waterloo

THE FIELDS INSTITUTE FOR RESEARCH IN MATHEMATICAL SCIENCES

COLLOQUIUM IN DYNAMICAL SYSTEMS

SPEAKER:

BARBARA LEE KEYFITZ
University of Houston
and The Fields Institute

On the Topic:

"A Riemann Problem Related to Mach Reflection for the Unsteady Transonic Small Disturbance Equation"

The unsteady transonic small disturbance (UTSD) equation has been proposed as a model to explain the transition between regular and Mach reflection at a wedge for weak shocks and small wedge angles.
We report preliminary results of a program to study this problem analytically. Here we examine a twodimensional Riemann problem for the UTSD equation. We can set up different cases as a bifurcation problem involving two parameters. We study one kind of Mach stem in detail, including solving a degenerate elliptic free boundary problem for the subsonic region.

Please Note: this is joint work with Suncica Canic

Wednesday, June 23, 1993

10:30 am, room 3018

at

The Fields Institute