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THE FIELDS INSTITUTE FOR RESEARCH IN MATHEMATICAL SCIENCES

GENERAL SEMINAR SERIES IN DYNAMICAL SYSTEMS

SPEAKER:

SRI NAMACHCHIVAYA
The Fields Institute and
University of Illinois

On the Topic:

**"Maximal Lyapunov Exponent and Rotation Numbers for
Dynamical Systems Driven by Real Noise"**

Asymptotic expansions for the exponential growth rate known as the Lyapunov exponent, and rotation numbers for systems driven by real noise are constructed. Such systems arise naturally in the investigation of the stability of steady-state motions of nonlinear dynamical systems and in parametrically excited linear mechanical systems. Almost-sure stability or instability of dynamical systems depends on the sign of the maximal Lyapunov exponent. Stability conditions are obtained under various assumptions on the infinitesimal generator associated with real noise provided that the natural frequencies are noncommensurable.

Thursday, April 8, 1993

1:30 pm, room 3018

at

The Fields Institute

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