McMaster University   University of Toronto   University of Waterloo

THE FIELDS INSTITUTE FOR RESEARCH IN MATHEMATICAL SCIENCES

COLLOQUIUM IN DYNAMICAL SYSTEMS

SPEAKER:

> ### DAVID L. ROD
> ### University of Calgary

On the Topic:

"Non-Integrability of Hamiltonian Systems via Ziglin Theory"

This will be an expository talk to introduce Ziglin's results which can be used to show that a given Hamiltonian system does not have additional independent constants of motion. The context is holomorphic dynamics, time is complex, and linearized solutions live in vector bundles over Riemann surfaces. This allows the use of algebraic geometry and the theory of linear algebraic groups to classify those differential galois groups of the linearized solutions having rational invariants. The galois groups arise naturally as the Zariski closure of the monodromy groups of the linearized equations in the Fuchsian case.

Wednesday, November 25, 1992 at 3:30pm, room 3018

at

The Fields Institute