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THE FIELDS INSTITUTE FOR RESEARCH IN MATHEMATICAL SCIENCES

COLLOQUIUM IN DYNAMICAL SYSTEMS

SPEAKER:

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Mathematics Institute of Technology
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On the Topic:

"Isomonodromy Deformation Problems"

I will discuss three classes of isomonodromy deformation problems associated with integrable systems. The first two arise as similarity solutions of the " $n \times n$ " AKNS hierarchies and the Gel'fand-Dikii hierarchies. The third arises in string theory as the representation of the Heisenberg group by $[(L^{k/n})_+, L] = 1$ where L is an n^{th} order scalar differential operator. I will explain the monodromy data and show how the inverse monodromy problem is posed as a Riemann-Hilbert problem. If time permits, I will explain the Painlevé property and describe its proof.

This lecture is based on joint work with Richard Beals; the paper will appear in *Physica D*.

Friday, March 12, 1993

3:30 pm, room 3018

at

The Fields Institute

Refreshments at 3:00pm, Common Room

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