PIMS Applied Mathematics Seminar Series

Friday, January 27, 2017, University of Saskatchewan

Room 106, Biology Building, 3:30 PM

Stability of Nonlinear Waves in Integrable Hamiltonian PDEs

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Abstract:
Many Hamiltonian PDEs (KdV, NLS, KP, MTM) are integrable with the inverse scattering transform method. In particular, they exhibit infinitely many conserved quantities, Bäcklund-Darboux transformations, solvability with the associated linear systems, and other properties. I will show how to use these properties in order to study the stability problems of nonlinear waves which cannot be solved in general non-integrable Hamiltonian PDEs.