

UNIVERSITY OF SASKATCHEWAN College of Arts and Science

DEPARTMENT OF MATHEMATICS AND STATISTICS ARTSANDSCIENCE.USASK.CA



Pacific Institute for the Mathematical Sciences

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.



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