



Seminar of the Work Group
Nonlinear Partial Differential Equations
Institute for Analysis
WS 24/25

Speaker: Wei Lian
November 26th, 2024, 11:30 - 13:00
Seminar room: SR 3.061

Transverse instability of line periodic waves to the KP-I equation

Wei Lian,
Lund University

Abstract

The passage from linear instability to nonlinear instability has been shown for 1D solitary waves under 2D perturbations. Although transverse instability of periodic waves to the KdV equation under the KP-I flow has been expected to be true from spectral instability for a long time, it has not been clear how to adapt the general instability theory for solitary waves to periodic waves until now. In this talk, we present how such an adaptation works with the aid of exponential trichotomies and multivariable Puiseux series.

Joint work with Erik Wahlén.