

abstract

Analysis Seminar
Topic:

Speaker:

Affiliation:

Date:

Time/Room:

We study the nonlinear Klein-Gordon equation, in one dimension, with a quadratic term and variable coefficient cubic term. This equation arises from the asymptotic stability theory of the kink solution. Our main result is the global existence and decay estimates for this equation. We discovered a striking new phenomena in this problem: a resonant interaction between the spatial frequencies of the nonlinear coefficient and the temporal oscillations of the solution.

The proof requires the development of new normal-form transformations. This is a joint work with H. Lindblad, I. Rodnianski and J. Sterbenz.