Analysis Seminar

Regularity Properties Of Cubic Biharmonic Nonlinear Schrödinger Equation On The Half Line

By

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Abstract: Fourth order-biharmonic nonlinear Schr¨odinger equations (NLS) were introduced by Karpman and Shagalov to consider the effect of the small fourth order dispersion terms in the propagation of intense laser beams in a bulk medium with Kerr nonlinearity. As a model equation, biharmonic NLS arises in many context such as deep water wave dynamics, vortex filaments, solitary waves, etc. In this talk we address local-global wellposedness and smoothing properties of biharmonic NLS in the initial-boundary value problem setting.
Since our arguments depend heavily on the formulation of the solution and the certain spaces in which the solutions make sense, we put particular emphasis on understanding the notion of a solution and the spaces solutions belong to.

Date: Wednesday, December 1, 2021
Time: 18:00-19:00, GMT+3.
Place: ZOOM
To request the event link, please send a message to goncha@fen.bilkent.edu.tr