

Analysis Seminar

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Dynamics of Gibbs Measure Evolution for the Radial Nonlinear Schrödinger and Wave Equations on the Ball

Series: Analysis Seminar

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Date & Time: Tue, 03/19/2013 - 15:15 - 16:15

Location: S-101

Video Link:

<http://video.ias.edu/analysis/1213/0319-AynurBulut>

In this talk, we present recent works with Jean Bourgain on global well-posedness for the radial nonlinear Schrödinger and wave equations set on the unit ball in \mathbb{R}^N with supercritical data chosen randomly in the support of the corresponding Gibbs measure. Our results include a full treatment of power-type nonlinearities for which the Gibbs measure is well-defined for the 3D nonlinear wave and 2D nonlinear Schrödinger equations, while in the case of 3D NLS, our approach is the first to enable treatment of supercritical data on the ball. The techniques involved are based on a sequence of finite-dimensional projections of the equations and rely upon a delicate analysis of individual frequency interactions within the nonlinearity, giving strong convergence properties for the sequence of finite-dimensional solutions, almost surely in the randomization.

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Wed, 09/26/2012 - 15:44

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terms:

- [School of Mathematics](#)