The Weizmann Institute of Science
Faculty of Mathematics and Computer Science
Mathematical Analysis and Applications Seminar
Room 1, Ziskind Building
on Tuesday, Jul 28, 2015 at 11:15

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Backward Behavior of Nonlinear Parabolic and Dissipative Evolution Equations

Abstract:

In this talk, I will discuss the backward-in-time behaviors of several nonlinear parabolic and dissipative evolution equations. This study is motivated by the investigation of the Bardos-Tartar conjecture on the 2D Navier-Stokes equations. Besides the rigorous mathematical treatment, we provide physical interpretation of the mechanism of singularity formulation, backward in time, for perturbations of the KdV equation. Finally, I will present the connection between the backward behavior and the energy spectra of the solutions.

This is a joint work with E. S. Titi.