IPM-Isfahan

Public Lecture, IPM-Isfahan

Prof. Fraydoun Rezakhanlou

University of California, Berkeley

Title:

Generalized Smoluchowski Equations and Scalar Conservation Laws

Abstract: ***By a classical result of Bertoin, if initially a solution to Burgers' equation is a Levy process without positive jumps, then this property persists at later times. According to a theorem of Groeneboom, a white noise initial data also leads to a Levy process at positive times. Menon and Srinivasan observed that in both aforementioned results the evolving Levy measure satisfies a Smoluchowski-type equation. They also conjectured that a similar phenomenon would occur if instead of Burgers' equation, we solve a general scalar conservation law with a convex flux function. Though a Levy process may evolve to a Markov process that in most cases is not Levy. The corresponding jump kernel would satisfy a generalized Smoluchowski equation. Along with Dave Kaspar, we show that a variant of this conjecture is true for monotone solutions to scalar conservation laws***.

July 17, 2016 (27 th Tir 1395) at 10:00-11:00.

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