SAMPLE PATH PROPERTIES OF LÉVY PROCESSES

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Key words: Lévy processes, regenerative sets, range, intersections and multiple points, Hausdorff dimension.

Mathematical Subject Classification: 60G60, 60J55, 60J45.

Abstract:

The sample functions of Lévy processes have rich analytic and geometric properties. Many of them have been studied since 1960's [see the survey papers of Fristedt (1974), Taylor (1986) and Xiao (2004)]. This talk is concerned with the intersection problems for Lévy processes and regenerative sets. We apply potential theory of multiparameter Lévy processes to establish necessary and sufficient conditions for the existence of intersections, and to determine the Hausdorff dimension of the intersection set when it is non-empty. Our results improve those of Fitzsimmons and Salisbury (1989) and solve a conjecture of Bertoin (1999a).

This talk is based on joint articles with Davar Khoshnevisan.

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