

概率论系列报告

报告题目 (Title): Cauchy semigroups: Nonlocally induced bound states

报告人 (Speaker): Piotr Garbaczewski 教授 University of Opole
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时间 (Time): 6月1日(周一)下午 3:00-4:00

地点 (Venue): 北京大学理科一号楼 1493

摘要 (Abstract): Generators of Lévy jump-type processes are spatially nonlocal. This becomes an issue if a nonlocally induced random motion is to be confined in a finite trapping enclosure. We address a prototype example of the Cauchy process in the interval $(-1,1)$, with a focus on spectral properties of the motion generator. We provide a detailed analysis of how an approximate functional shape of lowest eigenfunctions can be recovered and how this outcome fidelity is related to the evaluation finesse of the corresponding eigenvalues. As a byproduct of the discussion we identify a probability preserving stochastic process in a trap whose asymptotic (stationary) probability distribution, upon normalization, is determined by the squared ground state function.

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