

概率论系列报告

报告题目 (Title): The harmonic measure of critical Galton-Watson trees

报告人 (Speaker): Prof. Nicolas Curien Université Paris VI

时间 (Time): 5月27日(周一)下午 4:00-5:00

地点 (Venue): 北京大学理科一号楼 1479

摘要 (Abstract): We consider simple random walk on a critical Galton-Watson tree conditioned to have height greater than n . It is well known that the cardinality of the set of vertices of the tree at generation n is then of order n . We prove the existence of a constant $\beta \approx 0.78$ such that the hitting distribution of the generation n in the tree by simple random walk is concentrated with high probability on a set of cardinality approximately equal to n^β . In terms of the analogous continuous model, the dimension of harmonic measure of a level set of the tree is equal to β , whereas the dimension of any level set is equal to 1. The constant β is expressed in terms of the asymptotic distribution of the conductance of large critical Galton-Watson trees. (Based on joint work with Jean-François Le Gall).

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