

On the occupation measure of super-Brownian motion

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Abstract

We derive the asymptotic behavior of the total occupation measure of the unit ball for super-Brownian motion started from the Dirac measure at a distant point and conditioned to hit the unit ball. In the critical dimension 4, we obtain a limiting exponential distribution.

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Bibliography

1. D.A. Dawson D.A., I. Iscoe I. and E.A. Perkins. Super-Brownian motion: Path properties and hitting probabilities. *Probab. Th. Rel. Fields* 83(1989), 135-205. [Math. Review 90k:60073](#)
2. K. Itô and H.P. McKean. *Diffusion Processes and their Sample Paths*. Springer (1965). [Math. Review 199891](#)
3. T.Y. Lee. Asymptotic results for super-Brownian motions and semilinear differential equations. *Ann. Probab.* 29 (2001), 1047-1060. [Math. Review 2002i:60055](#)
4. J.F. Le Gall. *Spatial Branching Processes, Random Snakes and Partial Differential Equations*. Lectures in Mathematics ETH Zürich. Birkhäuser (1999). [Math. Review 2001g:60211](#)
5. J.F. Le Gall. The Hausdorff measure of the range of super-Brownian motion. In: *Perplexing Problems in Probability. Festschrift in Honor of Harry Kesten*. M. Bramson, R. Durrett eds, pp. 285-314. Birkhäuser (1999). [Math. Review 2001j:60095](#)
6. M. Merle. Local behaviour of local times of super-Brownian motion. *Ann. Institut H. Poincaré Probab. Stat.* 42 (2006), 491-520. [Math. Review 2242957](#)
7. E.A. Perkins. *Dawson-Watanabe Superprocesses and Measure-Valued Diffusions*. Lectures on Probability Theory and Statistics, Ecole d'été de Probabilités de Saint-Flour XXIX. Springer Lecture Notes Math. 1781, pp.125-329 (2002). [Math. Review 2003k:60104](#)
8. S. Sugitani. Some properties for the measure-valued branching diffusion process. *J. Math. Soc. Japan* 41 (1989), 437-462. [Math. Review 91a:60223](#)

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