

## The Chance of a Long Lifetime for Brownian Motion in a Horn-Shaped Domain

Dante DeBlassie, *Texas A&M University*

### Abstract

By means of a simple conditioning/comparison argument, we derive the chance of a long lifetime for Brownian motion in a horn-shaped domain.

Full text: [PDF](#) | [PostScript](#)

Pages: 134-139

Published on: April 24, 2007

### Bibliography

1. R. Bañuelos, R.D. DeBlassie, and R. Smits (2001). The first exit time of planar Brownian motion from the interior of a parabola. *Annals of Probability* 29 (2001), 882-901. [MR1849181](#)
2. P. Collet, S. Martinez and J. San Martin. Ratio limit theorems for a Brownian motion killed at the boundary of a Benedicks domain. *Annals of Probability* 27 (1999), 1160-1182. [MR1733144](#)
3. P. Collet, S. Martinez and J. San Martin. Asymptotic behaviour of a Brownian motion on exterior domains. *Probability Theory and Related Fields* 116 (2000), 303-316. [MR1749277](#)
4. P. Collet, S. Martinez and J. San Martin. Asymptotic of the heat kernel in general Benedicks domain. *Probability Theory and Related Fields* 125 (2003), 350-364. [MR1964457](#)
5. P. Collet, S. Martinez and J. San Martin. Ratio limit theorem for parabolic horn-shaped domains. *Transactions of the American Mathematical Society* 358 (2006), 5059-5082. [MR22311885](#)
6. W. Feller. *An Introduction to Probability Theory and its Applications, Volume 2, Second Edition.* (1971) Wiley, New York. [MR0270403](#)
7. N. Ikeda and S. Watanabe. *Stochastic Differential Equations and Diffusion Processes}, Second Edition.* (1989) North-Holland, Amsterdam. [MR1011252](#)
8. W. Li. The first exit time of Brownian motion from an unbounded convex domain. *Annals of Probability* 31 (2003), 1078-1096. [MR1964959](#)
9. M. Lifshits and Z. Shi. The first exit time of Brownian motion from a parabolic domain. *Bernoulli* 8 (2002), 745-765. [MR1963660](#)
10. R.G. Pinsky. *Positive Harmonic Functions and Diffusion.* (1995) Cambridge University Press, Cambridge. [MR1326606](#)
11. M. van den Berg. Subexponential behaviour of the Dirichlet heat kernel. *Journal of Functional Analysis* 198 (2003), 28-42. [MR1962352](#)

### Research Support Tool

[Capture Cite](#)  
[View Metadata](#)  
[Printer Friendly](#)

▼ [Context](#)

[Author Address](#)

▼ [Action](#)

[Email Author](#)  
[Email Others](#)