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Asymptotics for an arcsin type result. (English) Zbl 0796.60046
Ann. Inst. Henri Poincaré, Probab. Stat. 30, No. 2, 235-243 (1994).

Summary: Let A_t be the amount of time that a Brownian motion spends above 0 before time t . For fixed t the ratio A_t/t has distribution independent of t ; viewed as a function of time A_t/t can become arbitrarily small. We consider the effect of modifying the denominator. In particular, if f is monotonic, then $\liminf A_t/tf(t) = 0$ or ∞ according as $\int^\infty \sqrt{f(t)}(dt/t)$ diverges or converges. The proof considers A_t at the ends of "long" negative excursions and involves showing the existence of infinitely many such excursions.

MSC:

60G17 Sample path properties
60J65 Brownian motion

Cited in **2** Documents

Keywords:

Brownian sample path; arcsin law; excursion theory; Brownian motion

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