ICM 1998, Berlin, Aug. 18–27

Abstracts of Short Communications and Posters

Section:

12. Probability and Statistics

1991 MS Classification: 60J10
Chiang, Tzuu-Shuh, Sheu, Shenn-Jyi, Academia Sinica, Taipei, Taiwan.
Large Deviation of Small diffusions in discontinuous media
For a diffusion process, $dX(t) = b(X(t))dt + \epsilon\sigma(X(t))dW(t)$, we consider the large deviation of $P^\epsilon(\|X(.) - \phi(.)\| < \delta, \|u(.) - \psi(.)\| < \delta, \|\ell(.) - \eta(.)\|) < \delta)$. Here, $\phi(t)$ is the occupation time of X(t) in the positive half space and $\ell(t)$ is the local time of X(t) at 0. The drift and diffusion coefficients are assumed smooth except possibly along the hyperplane in d-dimensional space where the first coordinate is 0. The exact formula of the rate function is also given.