



Hitting half-spaces or spheres by Ornstein-Uhlenbeck type diffusions

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Résumé en anglais	<p>The purpose of the paper is to provide a general method for computing the hitting distributions of some regular subsets D for Ornstein-Uhlenbeck type operators of the form $12\Delta + F \cdot \nabla$, with F bounded and orthogonal to the boundary of D. As an important application we obtain integral representations of the Poisson kernel for a half-space and balls for hyperbolic Brownian motion and for the classical Ornstein-Uhlenbeck process. The method developed in this paper is based on stochastic calculus and on the skew product representation of multidimensional Brownian motion and yields more complete results than those based on the Feynman-Kac technique.</p>
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