

BOUNDARY BEHAVIOR OF A CONSTRAINED BROWNIAN MOTION
BETWEEN REFLECTING-REPELLENT WALLS

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Abstract: Stochastic variational inequalities provide a unified treatment for stochastic differential equations living in a closed domain with normal reflection and/or singular repellent drift. When the domain is a convex polyhedron, we prove that the reflected-repelled Brownian motion does not hit the non-smooth part of the boundary. A sufficient condition for non-hitting a face of the polyhedron is derived from the one-dimensional situation. A full answer to the question of attainability of the walls of the Weyl chamber may be given for a radial Dunkl process.

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