

Kopytko, B. I.

An application of the potential method for constructing a diffusion process in a domain with Ventsel boundary condition. (English. Ukrainian original) [Zbl 0959.60069](#)
[Theory Probab. Math. Stat. 59, 93-100 \(1999\)](#); translation from [Teor. Jmorn. Mat. Stat. 59, 91-98 \(1998\)](#).

A semigroup of operators which describe a diffusion process in semi-bounded domain of finite-dimensional Euclidean space and with Ventsel's general boundary condition, is constructed by methods of the theory of parabolic potentials. Namely, the problem of existence and uniqueness of such semigroup of operators is studied. To solve this problem the author uses analytical methods. It means that the required semigroup is defined by investigating some parabolic boundary value problem. The classical solution to this problem is usually established by methods of the theory of potentials. This problem has been earlier solved by other methods, in particular, by means of stochastic analysis.

Reviewer: [A.V.Swishchuk \(Kyïv\)](#)

MSC:

[60J60](#) Diffusion processes
[60J50](#) Boundary theory for Markov processes

Cited in **1** Review

Keywords:

[diffusion process](#); [Ventsel's boundary condition](#); [potential method](#)