

**Donchev D. S.** (Sofia University, Bulgaria) — **Exit Probability Levels of Diffusion Processes.**

We are interested in the probability that a diffusion process exits a domain between two curved boundaries through the upper one. In case of given boundaries that problem has closed solutions only in some special cases. We study a modification of the problem in which not only the exit probabilities but also the boundaries are unknown. Introducing the notion of exit probability levels, we show that this new problem can be reduced to a single non-linear second order PDE. In case of some important diffusion processes we find large families of solutions to this equation.

REFERENCES

1. *Donchev D.S.* Exit Probability Levels of Diffusion Processes. Proceedings of the American Math. Society, Volume 145, Number 5, 2241-2253.