

## Large deviation asymptotics for one-dimensional SDE's with discontinuous coefficients

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Large deviation principle for diffusion process with continuous coefficients is a classical result obtained by Freidlin and Wentzell ([1]). The case of discontinuous coefficients was studied by Chiang and Sheu ([2], [3]), where multi-dimensional SDE's were considered with coefficients, which have a discontinuity of the jump type along a fixed hyperplane, and Krykun ([4]), where one-dimensional SDE's were considered.

In our research we prove large deviation principle for one-dimensional SDE's with discontinuous coefficients. It occurs that discontinuity of coefficients leads, in general, to LDP asymptotics with rate function which differs from the rate function in the standard Freidlin-Wentzell theorem.

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- [2] T. S. Chiang, S. J. Sheu, *Large deviations of diffusion processes with discontinuous drift and their occupation times*, Ann. Probab. **28**, (2000), pp. 140–165.
- [3] T. S. Chiang, S. J. Sheu, *Small perturbations of diffusions in inhomogeneous media*, Ann. Inst. Henri Poincaré **38**, (2002), no. 3, pp. 285–318.
- [4] I. H. Krykun, *Large deviation principle for stochastic equations with local time*, Theory of Stochastic Processes **15(31)**, (2009), no. 2, pp. 140–155.