

**Ledoux, M.; Qian, Z.; Zhang, T.**

**Large deviations and support theorem for diffusion processes via rough paths.** (English)

Zbl 1075.60510

Stochastic Processes Appl. 102, No. 2, 265-283 (2002).

Summary: We use the continuity theorem of Lyons for rough paths in the  $p$ -variation topology to produce an elementary approach to the large deviation principle and the support theorem for diffusion processes. The proofs reduce to establish the corresponding results for Brownian motion itself as a rough path in the  $p$ -variation topology,  $2 < p < 3$ , and the technical step is to handle the Lévy area in this respect. Some extensions and applications are discussed.

**MSC:**

60F10 Large deviations

60J60 Diffusion processes

60H10 Stochastic ordinary differential equations (aspects of stochastic analysis)

Cited in **2** Reviews  
Cited in **41** Documents

**Full Text:** [DOI](#)

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