Beleva, Mariana D.

Controlled Wiener process by external interventions minimizing the average time with a drift. (English) Zbl 1034.60075

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Summary: The paper deals with a problem of control of a Wiener process with positive drifts appearing at random times. External interventions at suitable times are allowed to eliminate these drifts. A model of control of the process is investigated with accordingly defined external interventions so as to minimize the average time when the controlled process runs with a drift. A special case is considered when the problem of optimal control has an explicit solution.

MSC:

60J65 Brownian motion
93E20 Optimal stochastic control

Keywords:

Wiener process with positive drifts; external intervention; optimal control