Lefebvre, Mario
Survival maximization for a Laguerre population. (English) Zbl 1043.92024
Math. Probl. Eng. 8, No. 6, 563-574 (2002).

The paper considers a certain one-dimensional diffusion process which is a generalization of the Laguerre process and is used in genetics to model the evolution of a certain population. The problems of forcing this diffusion process to take on the value $d > 0$ before 0, and that of forcing the process to remain above 0 for at least a fixed time s, are studied in this paper. The aim of both problems is to maximize the survival time of the population. The risk sensitivity of the optimizer is taken into account in both problems.

Reviewer: Anatoliy Swishchuk (Calgary)

MSC:

92D15	Problems related to evolution
60J70	Applications of Brownian motions and diffusion theory (population genetics, absorption problems, etc.)
93E20	Optimal stochastic control
60J60	Diffusion processes

Keywords:

Brownian motion; diffusion processes; stochastic control; risk sensitivity; hitting time; stochastic differential equation

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