

**A CONTROL PROBLEM UNDER INCOMPLETE INFORMATION FOR A
LINEAR STOCHASTIC DIFFERENTIAL EQUATION****V. L. Rozenberg**

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A problem of guaranteed closed-loop control under incomplete information is considered for a linear stochastic differential equation (SDE) from the viewpoint of the method of open-loop control packages worked out earlier for the guidance of a linear control system of ordinary differential equations (ODEs) to a convex target set. The problem consists in designing a deterministic open-loop control providing (irrespective of a realized initial state from a given finite set) prescribed properties of the solution (being a random process) at a terminal point in time. It is assumed that a linear signal on some number of realizations is observed. By the equations of the method of moments, the problem for the SDE is reduced to an equivalent problem for systems of ODEs describing the mathematical expectation and covariance matrix of the original process. Solvability conditions for the problems in question are written.

Keywords: guidance problem, guaranteed closed-loop control, linear stochastic differential equation.

V. L. Rozenberg Cand. Phys.-Math. Sci., Krasovskii Institute of Mathematics and Mechanics, Ural Branch of the Russian Academy of Sciences, Yekaterinburg, 620990 Russia, e-mail: rozen@imm.uran.ru.

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