

Mashkov E. Yu. (Kursk, Russia) — On solvability of singular stochastic Leontieff type equation with impulse action II.

By a stochastic Leontief type equation we mean a special class of stochastic differential equations in the Ito form, in which both in the left-hand and right-hand sides there are rectangular real matrices that form a singular pencil (see [1]). Besides, in the right-hand side there are a deterministic summand, depending only on time, and impulse action (see [2]). It is supposed that the diffusion coefficient of the system is given by a matrix depending only on time. For investigation of this equation it is required to consider derivatives of sufficiently high orders from the free terms, including the Wiener process. In connection with this, to differentiate the Wiener process, we apply the machinery of Nelson mean derivatives (see [3]) of random processes, which makes it possible to avoid using the theory of generalized functions to the study of equations. As a result, analytical formulas are obtained for solving the equation in terms of mean derivatives of random processes.

REFERENCES

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