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**FORWARD AND BACKWARD EQUATIONS
FOR THE PROBABILITY CHARACTERISTICS
OF LEVY TYPE PROCESSES IN SPACES OF DISTRIBUTIONS**

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We study the correctness of equations for the probability characteristics of Levy type processes defined by stochastic differential equations. Using the Ito formula and techniques of the theory of generalized functions, we prove the following results. The forward equation for the transition probability of the process is correct on the space of compactly supported twice continuously differentiable functions under the assumptions of the theorem of existence and uniqueness of solutions to the stochastic differential equation, and the backward equation for a probability characteristic of special form is correct on the same space under additional conditions on the smoothness of the coefficients of the stochastic differential equation.

Keywords: Levy type process, Ito formula, Markov process, transition probability, distribution.

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