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STOCHASTIC CALCULUS AND INITIAL VALUE ANALYSIS ON THE ONE DIMENSIONAL DIFFUSIONS

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Abstract. Stochastic calculus and initial value analysis are used for complete description of distribution type of diffusion processes with Lipschitz coefficients. Sufficient conditions so that the solutions of stochastic differential equations posses absolutely continuous one dimensional distribution are given. For stochastic differential equations with uniformly elliptic coefficients probability density is investigated in detail. Also, the distribution of inverse process is given.

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