Crank-Nicolson difference scheme for the stochastic parabolic equation with the dependent operator coefficient

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Abstract: In the paper the Crank-Nicolson difference scheme for the numerical solution of the stochastic parabolic equation with the dependent operator coefficient is considered. Theorem on convergence estimates for the solution of this difference scheme is established. In applications, convergence estimates for the solution of difference schemes for the numerical solution of three mixed problems for parabolic equations are obtained. The numerical results are given.

Keywords: difference scheme, stochastic parabolic equation, convergence estimate

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