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STOCHASTIC INTEGRAL INEQUALITIES WITH APPLICATIONS

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Abstract. In this paper, we study some new stochastic inequalities involving the Itô integral and give some estimates for the solutions of controlled stochastic differential equations. As applications, we utilize the stochastic integral inequalities presented in this paper to show an existence theorem of the solution for a class of stochastic differential equations and to give necessary conditions that make the solution for a class of stochastic differential equations be a diffusion process.

Mathematics subject classification (2010): 26D10, 26D20, 60H05, 60H35.

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