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EXISTENCE THEOREM AND WONG-ZAKAI APPROXIMATIONS FOR MULTIVALUED STOCHASTIC DIFFERENTIAL EQUATIONS

Roger Pettersson

Abstract: We consider finite-dimensional multivalued stochastic differential equations where the drift has a multivalued and monotone term. Existence and approximation results are obtained by an existence theorem for deterministic differential inclusions and a polygonal approximation of the Brownian motion. The dispersion matrix is assumed to be state space independent.

Applications are given for Coulomb damping and hysteretic systems.

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