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S Sathananthan (satha@coe.tsuniv.edu), 330, 10th Av. N., Campus Box 139, Tennessee State University, Nashville, TN 37203, and M Anabtawi* (manabtawi@aus.ac.ae), Department of Mathematics and Statistics, American University of Sharjah, P.O. Box 26666, Sharjah, United Arab Emirates. Stochastic Partial Differential Equations and Finite-Time stability. Preliminary report.

In this talk, the concept of finite-time (Practical) stability is investigated for the parabolic partial differential equations under jump Markovian perturbations. The concept of vector-Lyapunov functionals coupled with the comparison principle are utilized to establish sufficient conditions for various types of finite-time stability criteria in the p-th moment and in probability of the equilibrium state of the system under stochastic structural perturbations. (Received January 18, 2005)