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**Tuan Anh Hoang\*** (tuan.hoang@wayne.edu), 1110 Faculty/Administration Building, 656 W. Kirby, Detroit, MI 48202, and **Yin George Gang** and **Xi Fubao**. *Numerical Solutions of Regime-Switching Jump Diffusions*.

This work develops numerical algorithms for approximating the solutions of stochastic differential equations that involve switching jump diffusion processes, in which the switching is a random process that depends on the jump diffusion. Being non-standard due to the jump diffusion dependent switching makes the problem far more difficult to deal with. Using decreasing step sizes, we construct the algorithm, which is in the spirit of Euler-Maruyama method. We then discuss the convergence of the proposed algorithm and provide numerical examples for demonstrating its performance. (Received January 18, 2015)