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C. Y. Zhang*, Department of Mathematical Sciences, Xi'an Jiaotong-Liverpool University, Suzhou, Jiangsu 215123, Peoples Rep of China. *Rate of Convergence of Weak Euler Approximation for Nondegenerate Itô Diffusion and Jump Processes.*

The paper studies the rate of convergence of the weak Euler approximation for Markov processes with Hölder-continuous generators. The main part of the jump intensity measure has a nondegenerate density with respect to the Lévy measure of a spherically-symmetric stable process. It covers a variety of stochastic processes including the nondegenerate diffusions and a class of SDEs driven by spherically-symmetric stable processes. To estimate the rate of convergence of the weak Euler approximation, the existence of a unique solution to the corresponding backward Kolmogorov equation in Hölder space is first proved. It then shows that the Euler scheme yields positive weak order of convergence. (Received September 08, 2011)