

1145-60-334

Fanhui Xu*, KAP 104, Department of Mathematics, University of Southern California, 3620 S. Vermont Ave., Los Angeles, CA 90089-2532, and **Remigijus Mikulevicius**, KAP 104, Department of Mathematics, University of Southern California, 3620 S. Vermont Ave., Los Angeles, CA 90089-2532. *The Rate of Convergence of Strong Euler Approximation for Lévy-driven SDEs.*

A SDE driven by an α -stable (Lévy) process with its coefficient being Lipschitz, the drift being β -Hölder continuous and α in $[1,2)$ is considered. In particular, the existence and uniqueness of the strong solution to this SDE with non-Lipschitz drift is proved by applying Euler approximation and deriving the rate of convergence in L^p sense when $\beta < 1$, $\beta + \alpha/2 > 1$. When $\beta = 1$, i.e. in the Lipschitz case, the rate of convergence is provided as well. It turns out that it is better than the standard estimation on SDEs driven by a Wiener process. "Ito-Tanaka trick" is adequately used in the case of Hölder drift, properties of the solution to a backward Kolmogorov equation play an important role here. (Received September 02, 2018)