1106-60-1899 **Ernest Jum*** (ejum@utk.edu) and **Jan Rosinski** (rosinski@math.utk.edu). *Simulation of stochastic differential equations driven by pure jump Levy processes with infinite jump activity.* Preliminary report.

We consider the problem of simulation of stochastic differential equations driven by pure jump Levy processes with infinite jump activity. Examples include, the class of stochastic differential equations driven by stable and tempered stable Levy processes, which are suited for modeling of a wide range of heavy tail phenomena. We replace the small jump part of the driving Levy process by a suitable Brownian motion, as proposed by Asmussen and Rosinski, which results in a jump-diffusion equation. We obtain desired mean-square and weak error estimates for the error resulting from this step. Combining this with numerical schemes for jump diffusion equations, we provide a good approximation method for the original stochastic differential equation that can also be implemented numerically. We complement these results with concrete error estimates and simulation. (Received September 16, 2014)