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Patrick A Assonken* (patrick13@mail.usf.edu), Department of Mathematics and Statistics, University of South Florida, 4202 East Fowler Avenue, Tampa, FL 33620-5700, and **Gangaram S Ladde** (gladde@usf.edu), Department of Mathematics and Statistics, University of South Florida, 4202 East Fowler Avenue, Tampa, FL 33620-5700. *Levy-type Stochastic Dynamic Modeling of Option Pricing Process under Semi-Markovian Structural Perturbations*. Preliminary report.

In this work, we consider a stock price process subjected to idiosyncratic Levy jumps and global structural changes attributed to interventions due to a Semi Markov process. The Semi Markov process decomposes the time domain of the price process into intervals where it operates as a mere Levy-Ito process, whereas Levy jumps decompose the space domain of the operating Levy process. We derive an infinitesimal generator for the stock price process and a closed form expression for the conditional characteristic function of the log return of a stock price process. The former could be used to derive a PIDE satisfied by exotic option price processes, while the latter could be used to retrieve the risk neutral densities via the Fourier transform and price European Vanilla Options. We use the risk neutral pricing formula based on an equivalent Martingale measure derived through an Esscher transformation. We derive a couple of formula for Vanilla European Call Option prices. The first formula is a consequence of Carr and Madan transformation under deterministic interest rate and the second is a modification of Ghosh and Goswami formula. (Received September 09, 2014)