Generalized Brownian - Laplace Processes and Financial Modeling

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In this paper we review various stochastic processes including autoregressive processes developed recently for modeling data from financial contexts. In particular, we consider different Laplacian models and their generalizations. A general framework for Gaussian and non-Gaussian autoregressive models and their extensions is also developed and studied in detail with respect to Brownian-Laplace processes. Fractional extensions are also considered. An illustration is made with respect to a real data on exchange rates of Indian rupee and U.S. dollar.
Key words: Autoregressive processes, Distribution theory, Currency exchange rate, Time Series Modeling.