1067-60-1006 **Jean-Claude Pedjeu***, Department of Mathematics and Statistics, 4202 East Fowler Avenue, PHY 114, Tampa, FL 33620-5700, and **Gangaram S Ladde** (gladde@usf.edu), Department of Mathematics and Statistics, 4202 East Fowler Avenue, PHY 114, Tampa, FL 33620-5700.

Fractional Differential Equations:Stochastic Modeling, Methods and Analysis. Preliminary report.

Stochastic models of dynamic processes with long-time behavior are developed. Methods of finding close form solutions are outlined. The process of close form solutions is used to address a few fundamental problems in the theory of stochastic fractional differential equations. We also explore numerical methods for finding the solution of fractional stochastic differential equations. (Received September 17, 2010)