1086-60-1359 **Olusegun M Otunuga*** (otunuga@mail.usf.edu), Department of Mathematics and Statistics, University of South Florida, 4202 east Fowler Avenue, CMC 342, Tampa, FL 33620-5700, and **Gangaram S Ladde** (gladde@usf.edu), Department of Mathematics and Statistics, University of South Florida, 4202 East Floler Avenue, CMC 342, Tampa, FL 33620-5700. *Nonlinear Stochastic Energy Spot Prices Processes with Delayed Volatility.* Preliminary report.

We consider a risky asset S(t) defined as S(t) =exp(x2(t) + f(t)) with riskless asset B(t)=B0 exp(rt). The risky asset S(t) consists of a non-seasonal non-linear stochastic process x2(t) which has a non-linear stochastic mean level x1(t) and a non-stationary stochastic volatility functional. We derive a continuous-time analogue of GARCH(1,1) model having two different sources of Wiener process for the non-stationary volatility functional. We showed that the expected square volatility under the risk-neutral measure is a deterministic delay differential equation and then constructed a numerical solution for the model. In addition, by developing a moving average-type model for a volatility process, an attempt is made to compare the merits and demerits of these to approaches. (Received September 21, 2012)