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Semere K Habtemicael* (habtemicaels@wit.edu), 550 Huntington ave, Boston, MA 02115,
and **Musie S Ghebremichael** and **Indranil SenGupta**. *Superposition Theorem of
Barndorff-Nielsen and Shephard Model for Variance and Volatility Swap*. Preliminary report.

We propose superposition BN-S Levy processes to model variance and volatility swap of a financial market. Such a model is analytically flexible and offer the possibilities of capturing the unexpected movement of the stock market than the standard models. Parameter estimate and model performance is assessed on data not used to build the model (i.e., test data). It is shown that the prediction error rate for the models are much lower compared to those from previous related models. Moreover, it is shown that unlike previous related models which are restricted to stable markets, the present approach can be applied to both stable and unstable markets. (Received August 22, 2017)