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Indranil SenGupta* (indranil.sengupta@ndsu.edu), Department of Mathematics, North Dakota State University, NDSU Dept # 2750, Minard Hall 408, Fargo, ND 58108-6050, and **Aziz Issaka**. *Analysis of variance based financial instruments for Ornstein-Uhlenbeck type models.*

In this presentation a couple of variance dependent instruments in the financial market are studied. Firstly, a number of aspects of the variance swap in connection to the Barndorff-Nielsen and Shephard model is studied. A partial integro-differential equation that describes the dynamics of the arbitrage-free price of the variance swap is formulated. Under appropriate assumptions for the first four cumulants of the driving subordinator, a Vecer-type theorem is proved. Finally, a price-weighted index modulated by market variance is introduced. The large-basket limit dynamics of the price index and the “error term” are derived. (Received June 28, 2017)