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**Yutaka Shikano\*** (yshikano@ims.ac.jp), 38 Nishigo-Naka, Myodaiji, Okazaki, Aichi 4448585, Japan. *On Nonlinear Quantum Walk*. Preliminary report.

The discrete-time quantum walk shows the interesting dynamics in several models. We studied the one-dimensional nonlinear quantum walk. In our nonlinear model, we show that these has the anomalous diffusion characterized by the q-Gaussian distribution. In addition to our publication [Sci. Rep. 4, 4427 (2014)], in this talk, we would like to discuss the origin of the anomalous diffusion in the nonlinear model. (Received July 20, 2015)