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**Chaobin Liu\*** (cliu@bowiestate.edu), Department of Mathematics, Bowie State University, 14000 Jericho Park Road, Bowie, MD 20715, and **Nelson Petulante** and **Forrest Ingram-Johnson**. *On the behavior of quantum walks confined to a cycle coupled with a half line*. Preliminary report.

When confined to a topological medium consisting of a cycle coupled with a half-line, quantum walks tend to exhibit long-term statistical tendencies which differ dramatically from the tendencies of classical random walks on the cycle-plus-half line setting. In particular, as suggested by numerical simulations, the position probability distribution of the walker tends to dichotomize, in part, into a non-stationary distribution on the cycle and, in part, into a ballistic distribution on the half line. By contrast, the position probability distribution of the classical random walker present nice uniform distributions on the cycle at large times, and tends always to vanish on the cycle and to migrate completely to the half-line as a purely diffusive process. (Received September 15, 2014)