

1086-60-2081 **Etsuo Segawa*** (e-segawa@m.tohoku.a.c.jp). *On the study of quantum graph : a mapping to coined quantum walk.* Preliminary report.

Quantum graph of a graph G is a system of Schrödinger equations on edges which have Euclidean length with boundary conditions at each joint part, i.e., vertex of the graph. On the other hand, the coined quantum walk of graph G also describes a discrete-time dynamics on G which is considered as a quantum analogue of a discrete-time random walk. We find a connection between two systems, more concretely, a stationary state of the coined quantum walk in a special class describes the eigenfunction of the quantum graph. (Received September 24, 2012)