Quantum State Transfer on Non-Complete Extended P-Sum of the Path on Three Vertices

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Abstract

Continuous-time quantum walk (CTQW) plays an important role in analyzing several transportation phenomena in quantum spin networks. Quantum state transfer is one such phenomenon where the characteristic vector of an initial vertex (fundamental state) in a network is transited to an another state distinct from the initial one. We study both perfect state transfer and pretty good state transfer on non-complete extended P-sum (NEPS) of the path on three vertices.