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Quantifying Transfer Strength on Graphs with Finite Cospectrality

Exploring quantum state transfer dynamics on graphs with finite cospectrality, we expand upon Lin, Yau, and Lippner's work: when vertex cospectrality exceeds distance, quantum state transfer is certain with increasing energy potential. This talk will examine cospectrality versus distance in various scenarios, offering strategies to ensure reliable transfer fidelity within specified potential limits. Additionally, a brief discussion addresses the critical aspect of readout time, providing insights for optimizing quantum information transfer efficiency.