Abstract Submitted
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Decoherence Rates of Coupled Qubits in an Oscillator Environment[1] DAVID DIAZ, Stony Brook University, KEVIN RANDLES, Weber State University, MANUEL BERRONDO, JEAN-FRANCOIS VAN HUELE, Brigham Young University — Quantum informational systems utilize qubits to store information. Our work focuses on the dynamics of open systems consisting of a qubit coupled to another qubit or oscillator environment.The Wei-Norman algebraic method is the primary technique used to evolve various combined systems. Once the evolution is found, the linear entropy determines the measure of decoherence of the system. We discuss the effects on decoherence of varying the dynamical parameters of the system and on the dependence of the results on selecting the rotating vs. the anti-rotating wave approximation.

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