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School on
NEW TRENDS IN QUANTUM DYNAMICS AND ENTANGLEMENT
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QUANTUM MEASURES FOR NON-MARKOVIANITY

3. The Role of Initial Correlations

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Abstract:

Initial correlations in the total system-environment state can play an important role in the subsequent dynamical evolution of an open quantum system. We will derive general inequalities which describe the effects of such correlations, and illustrate the application of these inequalities with the help of several examples, involving classically correlated, entangled as well as correlated thermal equilibrium initial states.