Quantum Physics

Asynchronous entanglement from coherently coupled nonlinear cavities

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The output fields of a pair of coherently coupled nonlinear optical cavities are found to exhibit strong optical entanglement. For sufficiently strong coupling the quantum correlations become asynchronous providing a resource for quantum information protocols such as all-optical quantum memories. A straightforward experimental implementation applicable to whispering gallery mode resonators such as microtoroids is proposed.

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