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The Induced Coherent Interaction of Localized Spins via Thermal Bosonic Environment. DENIS TOLKUNOV, DMITRY SOLENOV, VLADIMIR PRIVMAN, Clarkson University — We obtain the indirect coherent interaction between two spins induced by the bath of bosonic modes, and demonstrate that this interaction can create entanglement. We utilize a perturbative approach to obtain a quantum evolution equation for the two-spin dynamics. The induced interaction is calculated exactly. The exact solution is then used to identify the time scales for which the spins remain entangled.

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