

## Entanglement of Non-symmetric Two Atomic Qubits Induced by a Coherent State Field

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**Abstract:** The entanglement of two atomic qubits, which are coupled to a coherent state field with different couplings, is studied. The dynamical evolution of the concurrence, which measures the degree of the entanglement between the two qubits, is plotted versus the scaled time  $gt$ . It is found that the two qubits can be entangled by the coherent state field even when they are initially prepared in the most mixed state, and for very weak field, the most mixed state can be more easily entangled than some pure states. It is also found that the entanglement between the qubits sensitively depends on the relative difference of the atomic couplings and the mean photon number of the field.

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Key words: entanglement, mixed state, coherent state field

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