

Density Matrix and Squeezed Vacuum State for General Coupling Harmonic Oscillator

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Abstract: By taking a unitary transformation approach, we study two harmonic oscillators with both kinetic coupling and coordinate coupling terms, and derive the density matrix of the system. The results show that the ground state of the system is a rotated two single-mode squeezed state.

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Key words: density matrix, squeezed vacuum state, coupling harmonic oscillator

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