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Research note

Quantum properties of two-mode entangled coherent states

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Abstract

Coherent states are the quantum states, which give the closest description to classical states. Since their superpositions show quantum properties, research on these states has been of great interest. In addition, having nonclassical properties is necessary for quantum correlations. In this paper, we focus on two-mode entangled coherent states which are $f/2$ out of phase, and study the nonclassical properties such as squeezing of quadrature operators, antibunching and oscillatory photon statistics. Then we discuss about their entanglement, which is a quantum correlation in different conditions and compare the results.

Keywords: coherent states, entanglement, quadrature squeezing

For full article, refer to the Persian section