

Phase Properties of Nonlinear Coherent States

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Abstract: Using the Pegg-Barnett formalism we study the phase probability distributions and the squeezing effects of measured phase operators in the nonlinear coherent states introduced by R.L. de Matos Filho and W. Vogel to describe the center-of mass motion of a trapped ion and the q -coherent states. Moreover, we have obtained the completeness relation of nonlinear coherent states and proved that the q -Fock state $|n\rangle_q$ introduced in many papers is, in fact, the usual Fock state.

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Key words: nonlinear coherent state, phase probability distribution, measured phase operators

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