

## Statistical Properties of the Nonlinear SU(1,1) Coherent States

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**Abstract:** Using non-Hermitian realizations of SU(1,1) Lie algebra in terms of an f-oscillator, we generalize the notion of nonlinear coherent states to the single-mode and two-mode nonlinear SU(1,1) coherent states. Taking the nonlinearity function  $f(k)=L_k^{-1}(\eta^2)[(k+1)L_k^0(\eta^2)]^{-1}$ , their statistical properties are studied.

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**Key words:** f-oscillator, nonlinear SU(1,1) coherent states, statistical properties

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