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Title:	Continuous-variable Clauser-Horne Bell-type inequality: A tool to unearth the nonlocality of continuous-variable quantum-optical systems
Authors:	Chandana Kumar (/jspui/browse?type=author&value=Chandana+Kumar) Arvind (/jspui/browse?type=author&value=Arvind) Saxena, Gaurav (/jspui/browse?type=author&value=Saxena%2C+Gaurav)
Keywords:	Nonlocality Quantum states of light Quantum optics
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Abstract:	We consider a continuous-variable Clauser-Horne Bell-type inequality to study nonlocality in four-mode continuous-variable systems, which goes beyond two-photon states and can be applied to mixed as well as to states with fluctuating photon number. We apply the inequality to a wide variety of states such as pure and mixed Gaussian states (including squeezed thermal states) and non-Gaussian states. We consider beam splitters as a model for leakage and show that the inequality is able to detect nonlocality of noisy Gaussian states as well. Finally, we investigate nonlocality in pair-coherent states and entangled coherent states, which are prominent examples of nonclassical, non-Gaussian states.
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