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# A new non-classicality measure for the quantum states of a bosonic field

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The state of a bosonic field is classical if it is a statistical mixture of coherent states, or equivalently, if its Glauber-Sudarshan $P$-function defines a probability on phase space [1]. Otherwise, it is non-classical. Characterizing and measuring such non-classicality remains an important issue in quantum optics and quantum information theory notably. We introduce a new distance-based measure for non-classicality, and show it outperforms existing such measures in several ways.

*Joint work with D. Horoshko, G. Patera, M. Kolobov.*

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