

Abstract Submitted
for the DAMOP10 Meeting of
The American Physical Society

Phase measurement with two-mode squeezed vacuum in the presence of loss PETR M. ANISIMOV, JONATHAN P. DOWLING, Louisiana State University — A two-mode squeezed vacuum (TMSV) provides a high-flux entangled state with an average photon number of \bar{n} . Thus it is an attractive candidate for phase estimations with a suggested detection scheme being based on measuring the parity of a state of light. This can be carried out, for example, by using the NIST photon number resolving detectors. In this contribution, we present our studies of the sensitivity and resolution of such a phase measurement scheme in the presence of loss. We do this in terms of the Wigner function, which has a significantly simplified description of losses. We show that a discussed phase measurement scheme remains super-sensitive and super-resolving for a certain amount of loss.

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Date submitted: 22 Jan 2010

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