

Abstract Submitted  
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**Parity detection in Quantum Optical metrology** ARAVIND CHIRUVELLI, HWANG LEE, Louisiana State University, HEARNE INSTITUTE OF THEORETICAL PHYSICS TEAM — We show the utility of parity detection to achieve Heisenberg-limited phase estimation for optical interferometry. We consider the parity detection with several input states that have been shown to exhibit sub-shot-noise interferometry with their respective detection schemes. We show that with parity detection, all these states achieve the sub-shot noise limited phase estimate. Thus making the parity detection a unified detection strategy for quantum optical metrology.

Aravind Chiruvelli  
Louisiana State University

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