Toward Practical Application of Quantum Phase Imaging

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In this talk, after a general presentation of quantum imaging [1] (from sub shot noise imaging to quantum illumination, I will present the most recent progress in quantum phase imaging, demonstrating as, in this case, the problem, typical of sub shot noise imaging [2,3], related to the trade-off between resolution and noise suppression can be eliminated [3,4], paving the way to practical applications of this technique. First biological imaging applications will be presented.

References

[1] M Genovese, J. Opt. **18**, 073002 (2016)

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[4] A Paniate, G Ortolano and S Soman, M.Genovese and I Ruo-Berchera, Optica **13**, 375 (2026)