

Online seminar

Parametric down-conversion and its complexities



Speaker
Dr Stef Roux

The process of parametric down-conversion is discussed in terms of all the relevant degrees of freedom. This representation is made possible by a formulation in which all states are represented as Wigner functionals on a functional phase space. We discuss squeezing in all degrees of freedom and derive an evolution equation for the parametric down-conversion in the semiclassical approximation. It allows one to investigate spontaneous and stimulated parametric down conversion in all degrees of freedom. Applications that are discussed include the measurements of photon distributions, second-order correlations, parametric amplified states, photon added states and pump shaping.



DATE

22 October 2025



TIME

13:00 - 14:00

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