

## Area Seminar

Title Quantum Statistics of Light from Optical Parametric Oscillator

Date and Time 26/07/2013 16:00:00

Speaker Prof. Reeta Vyas  
Professor  
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Area Theoretical Physics

Venue Room No. 469

Abstract Optical parametric oscillators (OPOs) based on frequency down conversion are quantum mechanical sources of light with a definite threshold for self-sustained oscillations. They can be operated in degenerate or non-degenerate modes and the light generated by them exhibits nonclassical fluctuations. We obtain analytic expressions for probability distribution functions, which are valid though out the threshold region and study their fluctuations properties below, near, and above threshold. We discuss nonclassical effects in various measurable quantities such as the mean, variance, and skewness of the intensity, and quadrature squeezing, and compare with those for the single and two mode lasers