

Non-Collinear Configuration for Dichromatic Squeezing

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We propose a non-collinear experimental scheme for the joint generation of two amplitude-squeezed beams at the frequencies ω_1 and ω_2 , fundamental and second harmonics of a Nd:YAG laser pulse. The scheme consists of two successive steps, both involving second-order non-linear interactions in β -BaB₂O₄ non-linear crystals. One of the output beams show subPoissonian photon statistics, and this allows to use photodetection instead of homodyne detection for diagnostics.

Key words: Nonclassical Field States; Nonlinear Optics; Frequency Conversion.