519. Title:Enhanced bandwidth noncollinear optical parametric amplification with a narrowband anamorphic pump

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Abstract:Through the use of anamorphic focusing, we present a method for generating broadband noncollinear optical parametric amplification in signal regions lacking a broadband phase-matching condition that is ideally suited for narrowband pump sources, herein based on an erbium-doped fiber oscillator. With a short focal length cylindrical lens to enhance the phase-matching condition and a long focal length cylindrical lens in the orthogonal plane to limit the pump power in the amplifying beta barium borate crystal, we amplify pulses in the blue-green spectral region with over 100 THz (˜3500cm-1) bandwidth. The amplified signal is subsequently compressed to 9:5 fs, near the transform limit.