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**Transforming the Idler for Use in Laser–Plasma Interaction Experiments** S. BUCHT, D. HABERBERGER, J. BROMAGE, D.H. FROULA, Laboratory for Laser Energetics, U. of Rochester — A novel optical system has been designed to transform the idler produced in an optical parametric chirped-pulse–amplification (OPCPA) system into a useable high-power pulse for laser–plasma interaction (LPI) experiments. The idler is an existing byproduct created by all OPCPA systems and has similar bandwidth and energy to the signal; with proper preparation it can be another high-fidelity laser pulse at a shifted or unique wavelength from the signal. This preparation is made difficult because of two issues arising in the optical parametric amplifier: (1) angular dispersion and (2) complex chirp reversal. A two-prism angular dispersion compensator and a grism stretcher show promising analytic solutions to these two problems without significantly sacrificing energy or bandwidth. The unusual wavelength range of this beam makes it ideal for unique LPI experiments such as Raman amplification. This material is based upon work supported by the Department of Energy National Nuclear Security Administration under Award Number DE-NA0001944.

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