

Abstract Submitted  
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**Focusing of picosecond laser pulses in cone geometries<sup>1</sup>**

MATTHEW LEVY, Rice University, LAURENT DIVOL, ANDREAS KEMP, LLNL — Short-pulse laser applications like K-alpha based X-ray backlighters, or the fast-ignition approach to inertial confinement fusion require relativistic laser intensities  $>10^{19}\text{W}/\text{cm}^2$  over relatively small spots, i.e., radius  $\sim 10\mu\text{m}$ , while high power laser systems will deliver most of their energy in  $\sim 200\mu\text{m}$  spots. We study the focusing of picosecond-scale laser pulses in converging target geometries over an intensity range  $10^{17}$ - $10^{20}\text{W}/\text{cm}^2$  using particle-in-cell simulations, paying special attention at the interaction of intense light with the cone walls.

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