

Abstract Submitted
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Ion Beams from Short Pulse Laser Irradiation for Fast Ignition¹

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The ePLAS implicit/hybrid code is being used to model fast ion generation for ignition in targets irradiated by short pulse lasers. The code calculates $E\&B$ -Fields by the implicit moment method² and couples electrons to ions at corrected Spitzer rates with variable Z from the Sesame Tables. The moderate to low Z ions are modeled as either PIC particles or a fluid. Typical laser illumination is from 5×10^{19} to $3 \times 10^{20} \text{W/cm}^2$ in 1-10 Picosecond pulses, $7 - 40 \mu\text{m}$ in diameter. We will discuss results for a variety of illumination schemes and tuning options to focus and collect the ions, including the use of multiple shells and beams.

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²R. J. Mason, JCP **71**, 429 (1987) and R. J. Mason, PRL **96**, 035001 (2006).

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