

Abstract Submitted
for the DPP07 Meeting of
The American Physical Society

Control of laser-accelerated ions: Recent advances and preliminary results from the new Trident 250-TW laser¹ B. MANUEL HEGELICH, BRIAN J. ALBRIGHT, LIN YIN, KIRK A. FLIPPO, D. CORT GAUTIER, SAMUEL LETZRING, LANL, ROLAND SCHULZE, MARK SCHMITT, JUAN C. FERNANDEZ, LANL, LANL TEAM — Advanced target design, treatment and characterization enable progress in laser-driven ion acceleration. We demonstrate spectral shaping and mono-energetic features from in-situ formed source layers on different substrate materials. Advanced targets and experimental techniques allow control of the properties of laser accelerated ion beams, which is of importance to future applications like Ion Fast Ignition (IFI), WDM research and others. We will also present preliminary results from the new 250-TW Trident laser system that will allow the extrapolation of scaling laws similar to those derived for proton acceleration.

¹Work performed under the auspices of the U. S. Dept. of Energy by the Los Alamos National Security, LLC, Los Alamos National Laboratory.

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Date submitted: 20 Jul 2007

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