

Abstract Submitted
for the DPP09 Meeting of
The American Physical Society

A Hybrid Ion/Electron Beam Fast Ignition Concept B.J. ALBRIGHT, Los Alamos National Laboratory — Fast ignition (FI) inertial confinement fusion is an approach to high-gain inertial fusion, whereby a dense core of deuterium/tritium fuel is assembled via direct or indirect drive and then a hot spot within the core is heated rapidly (over a time scale of order 10 ps) to ignition conditions by beams of fast charged particles. These particle beams are generated outside the capsule by the interaction of ultra-intense laser pulses with solid density targets. Most study of FI to date has focused on the use of electron [Tabak et al., Phys. Plasmas 1, 1696 (1994)] or ion [Fernández et al., Nuclear Fusion 49, 065004 (2009)] beams, however a hybrid approach involving both may have advantages. This paper will describe recent work in this arena. Work performed under the auspices of the U. S. Dept. of Energy by the Los Alamos National Security, Los Alamos National Laboratory. This work was supported by LANL Laboratory Directed Research and Development (LDRD).

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Date submitted: 22 Jul 2009

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