

Abstract Submitted
for the DPP10 Meeting of
The American Physical Society

Short-Pulse Laser-Produced Electron Temperature, Divergence and Conversion Efficiency Measurements Using Multiple X-Ray Spectrometers¹ B. WESTOVER, F. BEG, D. HIGGINSON, A. SOROKOVIKOVA, S. CHAWLA, UCSD, P. PATEL, Y. PING, LLNL, R. FREEMAN, A. LINK, V. OVCHINNIKOV, D. WERTEPNY, The Ohio State Univ., R. FEDISEJEVS, H. FRIESEN, H. TIEDJE, Y. TSUI, Univ. of Alberta, J. DAVIES, K. LI, Instituto Superior Technico, A. MORACE, Univ. of Milan, P. NORREYS, M. STREETER, Imperial College London, K. AKLI, General Atomics, C. CHEN, LLNL — The bremsstrahlung radiation emitted from a target irradiated by high-intensity-short-pulse lasers carries information about the electron population. Electron conversion efficiency, temperature, beam divergence and pointing can all be calculated if multiple spectrometers are used. In the experiment described here, five X-ray spectrometers recorded bremsstrahlung radiation from 500 μm thick silver foils. Modeling of the target to these electrons was performed using Integrated Tiger Series 3.0 (ITS 3.0) code, allowing inference of the electron distribution from the bremsstrahlung emission. These experimental results are compared to the predictions of particle-in-cell (PIC) codes.

¹This work performed under the auspices of the U. S. Dept. of Energy by LLNL under Contract DE-AC52-07NA27344.

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Date submitted: 20 Jul 2010

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