

Abstract Submitted
for the DPP11 Meeting of
The American Physical Society

Electron density and temperature measurements of laser-produced plasmas from electron-feature Thomson-Scattering JENA MEINECKE, Lawrence Livermore National Laboratory; Oxford University, BRADLEY POLLOCK, Lawrence Livermore National Laboratory; University of California, San Diego, CHRIS STOAFER, Lawrence Livermore National Laboratory; Columbia University, JAMES ROSS, LAURENT DIVOL, Lawrence Livermore National Laboratory, GEORGE TYNAN, University of California, San Diego, SIEGFRIED GLENZER, Lawrence Livermore National Laboratory — We present a comparison of the electron temperature and density from electron plasma wave Thomson-Scattering measured for foil targets in laser-produced plasmas. The experiments were performed at the Jupiter Laser Facility using a 2ns square, 1054 nm, 300J laser focused onto CH and Al thin foil targets. A 200ps, 527 (2ω), 45J laser pulse was used as the Thomson scattering probe for spatial and temporal resolution. The plasma conditions were measured from 0.1 to 1 mm from the foil surface with a spatial resolution of $15\mu\text{m}$. The densities of the blowoff plasmas were about the same for each foil target which was independently measured at the Omega Laser Facility with a 1ns, 3ω , 500J drive laser pulse. Measurements were made $500\mu\text{m}$ from CH and V foil targets using a 1ns, 4ω , 200J scattering probe. These measurements will be compared to hydrodynamic simulations. This work was performed under the auspices of the U.S. Department of Energy by Lawrence Livermore National Laboratory under Contract DE-AC52-07NA27344.

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Date submitted: 15 Jul 2011

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