

Abstract Submitted
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Measurements of magnetic fields in two beam laser-solid interactions using proton grid deflectometry L. WILLINGALE, P.M. NILSON, M.C. KALUZA, A.E. DANGOR, P. FERNANDES, M.G. HAINES, C. KAMPERIDES, R.J. KINGHAM, Z. NAJMUDIN, M.S. WEI, K. KRUSHELNICK, Blackett Laboratory, Imperial College London, London. SW7 2BZ United Kingdom, M. NOTLEY, S. BANDYOPADHYAY, M. SHERLOCK, R.G. EVANS, Central Laser Facility, Rutherford Appleton Laboratory, Chilton, Oxon. OX11 0QX United Kingdom, S. MINARDI, M. TATARAKIS, Technological Educational Institute of Crete, Chania, Crete, Greece, W. ROZMUS, Department of Physics, University of Alberta, Edmonton, Alberta, Canada — Measurements of the self-generated magnetic fields around the focal spots of two laser heater beams (1 ns pulse duration, 1 μm wavelength, $1 \times 10^{15} \text{ Wcm}^{-2}$) on a planar target were made. Face-on proton grid deflectometry was used to measure the magnetic field at the focal spot edges to be 0.7 – 1.3 MG. The proton deflectometry also provides evidence that the plasma flows from the focal spots are magnetized. The formation of a driven magnetic reconnection geometry with varying focal spot separation will be discussed.

Louise Willingale
Imperial College London

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