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Fast electron generation and transport in cone-attached wire targets irradiated by 800 J, 10 ps OMEGA EP laser pulses[1] T. YABUUCHI, H. SAWADA, T. MA, T. BARTAL, M.S. WEI, F.N. BEG, UCSD, K.U. AKLI, R.B. STEPHENS, GA, H. CHEN, A.J. ELSHOLZ, J.A. EMIG, M.H. KEY, A.J. MACKINNON, R.D. VAN MAREN, H.S. MCLEAN, P.K. PATEL, Y. PING, LLNL, D. BATANI, R. JAFER, Univ. of Milano, Bicocca, S.D. BATON, LULI, L.A. GIZZI, IPCF-CNR, P.A. NORREYS, C. SPINDLOE, STFC RAL, R. BETTI, W. THEOBALD, LLE — Study of fast electron generation and transport is of a fundamental importance for the success of fast ignition of ICF. OMEGA EP provides an important platform to carry out such a study. We report experiments using copper wires attached to gold cones with 800 J, 10 ps pulses at the OMEGA EP laser facility. The fast electron generation and transport were investigated with the Cu Kα x-rays, to show energy coupling into the wire, from the emitted electrons, to show their energy spectrum, and by backlighting with an MeV proton beam to show electrostatic fields around the target. Experimental results are compared with 150 J, 1 ps pulses using the Titan laser at LLNL.

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