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Proton radiography of relativistic magnetic reconnection driven by ultra-high intensity lasers[1] PAUL T. CAMPBELL, A. RAYMOND, University of Michigan , C. A. J. PALMER, Y. MA, Lancaster University, H. CHEN[2], LLNL, Y. KATZIR, RAL, C. MILEHAM, P. M. NILSON, LLE, C. P. RIDGERS, University of York, A. G. R. THOMAS, University of Michigan, E. R. TUBMAN, Imperial College London, M. S. WEI, General Atomics, G. J. WILLIAMS, LLNL, N. WOOLSEY, University of York, L. WILLINGALE, K. KRUSHELNICK, University of Michigan — In recent experiments conducted with the OMEGA-EP laser facility at LLE and the Vulcan laser at RAL, proton radiography was used to observe in detail the magnetic field dynamics associated with magnetic reconnection driven by ultra-high intensity, short pulse lasers. Two configurations were investigated: one with two short pulses focused on target in close proximity and another with a short pulse fired near a relatively slowly evolving long pulse produced plasma. The proton radiography results, along with x-ray imaging and angularly resolved electron spectra will be presented.

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