Abstract Submitted for the DPP07 Meeting of The American Physical Society

Quantitative investigation of mass ablation rates of wire arrays at current levels from 80kA to 1MA¹ S. BOTT, D. HAAS, F. BEG, Department of Mechanical and Aerospace Engineering, University of California San Diego, U. UEDA, Y. ESHAQ, Physics Department, University of California San Diego, D. HAMMER, B. KUSSE, J. GREENLY, T. SHELKOVENKO, S. PIKUZ, I. BLESENER, R. MCBRIDE, J. DOUGLASS, K. BELL, P. KNAPP, Laboratory for Plasma Studies, Cornell University, J. CHITTENDEN, S. LEBEDEV, S. BLAND, G. HALL, F. SUZUKI VIDAL, A. MAROCCHINO, A. HARVEY-THOMPSON², Blackett Laboratory, Imperial College London — We present investigations of mass ablation rates in x-pinches and wire arrays at different current levels. Interferometry and radiography are used with x-ray framing cameras to investigate ablation from 80 kA to 1MA. The radial ablation flare structure is studied, along with the formation of precursor plasma structures. Quantitative comparisons will be made to analytical and MHD modeling.

¹Work is supported by DOE Junior Faculty Grant DE-FG02-05ER54842, and a grant from the Center of Excellence for High Energy Density Physics, Cornell University. ²Work at Imperial College London is sponsored by the NNSA under DOE Cooperative Agreement DE-F03-02NA00057.

> Simon Bott Department of Mechanical and Aerospace Engineering, University of California San Diego

Date submitted: 18 Jul 2007

Electronic form version 1.4