Abstract Submitted for the DPP07 Meeting of The American Physical Society

Quantitative Measurements of Ablation in Wire Array Z-Pinches A. HARVEY-THOMPSON, S.V. LEBEDEV, S.N. BLAND, J.P. CHITTENDEN, G.N. HALL, J.B.A. PALMER, F. SUZUKI-VIDAL, Imperial College London, S.C. BOTT, University of California, San Diego — The long-time scale ablation of the wires in a wire array z-pinch is crucial in determining its subsequent implosion and Xray emission. Using a combination of interferometry and Faraday probing, we report on direct measurements of the current and mass density profiles in cylindrical, radial and inverse wire array z-pinches leading up to and during implosion. The results are compared and contracted to the rocket ablation model and to both 2 and 3-D MHD simulations. This research was sponsored by Sandia National Labs and the NNSA under DOE Cooperative Agreement DE-F03-02NA00057.

Simon Bland

Date submitted: 22 Jul 2007

Electronic form version 1.4