

Abstract Submitted  
for the DPP07 Meeting of  
The American Physical Society

**Electronic Measurement of Microchannel Plate Pulse Height Distribution**<sup>1</sup> C.M. HUNTINGTON, E.C. HARDING, M.E. LOWENSTERN, R.P. DRAKE, University of Michigan — Microchannel plates are a central component to the x-ray framing cameras used in many plasma experiment diagnostic systems. Seeking to improve the photon-to-electron conversion efficiency of x-ray cameras we will characterize the pulse-height distribution of the electron output from a microchannel plate. Replacing the framing camera's phosphor-coated fiber optic screen with a charge-collection plate and coupling to a low-noise multichannel analyzer, we will quantify the total charge generated per photon event over a range of x-ray energies and incident fluxes. Hypothesizing that plate saturation is a function of incident photon flux, we will calculate the saturation regime for microchannel plates operated in a single-plate configuration. The electronically-measured pulse height distribution will be compared to the same data collected via a purely-optical method, as described previously (E. C. Harding and R. P. Drake, Rev. Sci. Instrum. 77, 10E312 (2006)).

<sup>1</sup>This research was sponsored by the Naval Research Laboratory through contract NRL N00173-06-1-G906 and by NNSA through DOE Research Grant DE-FG52-04NA00064.

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Date submitted: 23 Jul 2007

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