

**SPIE Optics + Photonics: NanoScience + Engineering Conference, 2008****Abstract Submission****Characterization Studies and Performance of Half-strip High-speed X-ray Microchannel Plate Imager**

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High-speed microchannel plate (MCP)-based imagers are critical detectors for x-ray diagnostics employed on Z-experiments at Sandia National Laboratories (SNL) to measure time-resolved x-ray spectra and to image dynamic hohlraums. A design using eight half-strip x-ray photocathodes in one imager permits recordings of radiation events in discrete temporal snapshots to yield a time-evolved movie. We present data using various facilities to characterize the performance of this design. These characterization studies include DC and pulsed-voltage biased measurements in both saturated and linear operational regimes using an intense, short-pulsed UV laser and Manson source. Surface voltage profile measurements using a picoprobe help to determine the gain variation across the strips. Test data from a recent SNL ZR-experiment demonstrates the flexibility and high-quality images obtained by this MCP imager.

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