

Abstract Submitted
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Design of a pinhole photodiode camera for the Wheaton Impulsive Reconnection Experiment D. BLASING, D. COSTER, D. CRAIG, J. DAHLIN, D. STAPLETON, Wheaton College, Wheaton IL USA — Absolute extreme ultraviolet (AXUV) photodiode arrays are utilized in the design of two pinhole photodiode cameras to examine the dynamics of the plasma evolution during a single shot. The cameras will resolve the discharge horizontally and vertically into 20 viewing slices each of width ~ 1 cm. Each camera will monitor the entire plasma shot with $0.2\mu\text{s}$ resolution. This compliments the existing fast ICCD cameras which only take two pictures per shot but have spatial resolution $\sim 1\text{mm}$. Fast ICCD time scan pictures taken from multiple shots are displayed. The spectrum and the total power of the light emitted by the plasma has been measured and incorporated into the camera design. The expected photodiode current has been estimated. Work supported by U.S.D.O.E. grant DE-FG02-08ER55002.

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