

Abstract Submitted  
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**Laser-based imaging of wire array z-pinches and X pinches on the COBRA pulsed power generator**<sup>1</sup> RYAN MCBRIDE, DAVID CHALENSKI, LLOYD MAXSON, SERGEI PIKUZ, TATIANA SHELKOVENKO, JON DOUGLASS, JOHN GREENLY, DAVID HAMMER, BRUCE KUSSE, Laboratory of Plasma Studies, Cornell University, Ithaca, NY, 14853, USA — Initial laser-based imaging experiments of wire array z-pinches and X pinches on the 1 MA COBRA pulsed power generator are presented. The imaging system makes use of a frequency-doubled 532 nm green beam from a Nd:YAG laser source. This source also supplies the frequency-quadrupled 266 nm UV beam that is used to trigger the final output switches of the COBRA generator and initiate a current pulse. Thus, the desired timing of the imaging beam relative to the start of a current pulse is achieved by adjusting the optical path length of the imaging beam. Once the imaging beam has passed through the pinch region, the light is collected on a high resolution CCD camera that is linked to a PC for fast image processing. The laser-based images produced, along with images and measurements from other supporting diagnostics, are presented.

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Ryan McBride  
Laboratory of Plasma Studies, Cornell University, Ithaca, NY, 14853

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