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Axial X Pinch Backlighting on COBRA¹ ISAAC BLESENER, Cornell

Univeristy, JOHN GREENLY, SERGEY PIKUZ, TATIANA SHELKOVENKO, DAVID HAMMER, BRUCE KUSSE, Cornell University — X pinch backlighting is a useful imaging technique whereby two or more wires are crossed at a single point and driven with a high current (300-500 kA). At the crossing point, a micron-scale sub-nanosecond x-ray source is produced that acts as a point source and can be used for point-projection imaging. Axial x pinch backlighting is a new technique that allows an end-on image of Z pinches. New load geometry was developed at Cornell University to allow all standard diagnostics to be used on the same shot as the axial x pinch backlighting diagnostic. High density plasma features have been observed that correlate well with XUV self-emission images previously recorded on COBRA and simulation results from GORGON. Data and images will be presented illustrating the latest results from COBRA. Future applications include the possibility of shockwave imaging in the center of thing foil cylinders.

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