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Axial Plasma Jet Characterization on a Microsecond X-Pinch[1]
G.S. JAAR, R.K. APPARTAIM, Florida A&M University — The plasma jets generated from a two wire x-pinch have been studied with current quarter period of 1 μs. Wires of tungsten, aluminum, and titanium of 25-100 μm thicknesses have been exploded with a peak current value of 350kA. The plasma has been characterized using Nd:YAG based schlieren photography, time-resolved optical photography, x-ray photodiode detector, and a flat crystal x-ray spectrometer. The schlieren photographs enable determination of the evolution and velocity of the jets. Plasma temperature and density measurements at the crossing point will also be reported from the crystal spectrometer.

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Georges Jaar
Florida A&M University

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