Abstract Submitted
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Study of supersonic jet formation and propagation in low current x-pinches[1] DAVID HAAS, TAO ZHANG, PHILIP DEDIÉ, DMITRY FEDIN, YOSSOF ESHAQ, UTAKO UEDA, FARHAT BEG, University of California San Diego — A comprehensive study of the supersonic jets created from x-pinches has been performed. A compact pulsar was used to drive 4 and 6 wire x-pinches with an ∼80kA current having a risetime of 40ns. The wire materials studied include Al, Mo, and W. The electrode separation was 10mm. The propagation of the jets is studied at the top of the electrode. XUV framing images show that the jets move with a velocity of 6 x 10^5 m/sec. Additionally, the density of the jets was obtained with laser interferometry and was in the range of 10^{17}-10^{18} cm^{-3}. These results indicate that jets of astrophysical interest can be produced with compact, low current, x-pinches.

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