

**PRELIMINARY RESULTS USING CABLE ARRAYS
AT 1 MA***

C. L. Hoyt, P. F. Knapp, P. -A. Gourdain, J. B. Greenly, S. A.
Pikuz, T. A. Shelkovenko, D. A. Hammer
*Laboratory of Plasma Studies, Cornell University
Ithaca, NY 14853*

The axial instability in wire array z-pinches has a significant impact on the early and late time dynamics¹. Previous studies have sought to learn about this impact by modifying the instability structure through use of etched² and coiled wires³. We report experimental results showing that using twisted pairs, i.e., “cables,” in place of single, straight wires, effectively suppresses growth of all modes of the axial instability except that corresponding to the twist wavelength over a broad range. The resulting modified axial instability evolution and its dependence on material and the pitch of the twist are presented. In addition, the resulting impact on implosion dynamics and x-ray output are considered and a preliminary scan of array parameters is presented.

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2. B. Jones *et al.*, “Measurement and modeling of the implosion of wire arrays with seeded instabilities,” *Phys. Plasmas* **13**, 056313 (2006).
3. G. N. Hall *et al.*, “Modifying Wire-Array Z-Pinch Ablation Structure Using Coiled Arrays,” *Phys. Rev. Lett.* **100**, 065003 (2008).

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