

Abstract Submitted  
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**Fielding First X Pinches at New 300-kA 150-ns Pulser for High-Energy Density Laser-Plasma Experiments.**<sup>1</sup> ROMAN SHAPOVALOV, MATTHEW EVANS, HANNAH HASSON, IMANI WEST-ABDALLAH, JAMES YOUNG, PIERRE-ALEXANDRE GOURDAIN, University of Rochester — X pinches are unique radiation sources often used as a diagnostic in high-energy density physics. Given the right conditions, they produce m-sized “hot spots”, which generate x-ray bursts less than a nanosecond long. To improve our understanding of x-pinch dynamics, a new, compact and portable pulser was recently built at the University of Rochester. Simulations predict it can deliver up to 300-kA of peak current into an inductive x-pinch load with less than 150-ns time-to-peak when the pulser is fully charged to 100 kV. We measured the pulser total internal inductance to be about 40 nH, and it is currently undergoing the final engineering short-circuit test. In this work we present the first measurements of the x pinches fielded inside the vacuum chamber of the new pulser.

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