

Abstract Submitted
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Experimental Results from the LLNL Megajoule class Dense Plasma Focus MJOLNIR¹ Y. A. PODPALY, E. ANAYA, M. ANDERSON, G. BARTOLO, S. CHAPMAN, C. COOPER, O. DRURY, Lawrence Livermore Natl Lab, A. DURAND, Mission Support and Test Services, C. GOYON, D. P. HIGGINSON, I. HOLOD, A. LINK, R. MATTES, Lawrence Livermore Natl Lab, D. MAX, Mission Support and Test Services, A. POVILUS, A. E. SCHMIDT, Lawrence Livermore Natl Lab — A dense plasma focus (DPF) is a relatively compact coaxial plasma gun which completes its discharge as a Z-pinch. These devices have been designed to operate at a variety of scales in order to produce short (<100 ns) pulses of ions, X-rays, or neutrons. LLNL has recently constructed and brought into operation a new device, the MJOLNIR (MegaJOuLe Neutron Imaging Radiography) DPF which is designed for radiography and high yield operations. This device has been commissioned over the last year and has achieved neutron yields up to $3E11$ neutrons/pulse at 2.2 MA pinch current while operating at up to 1 MJ of stored energy. MJOLNIR is equipped with a wide range of diagnostics, including activation foils, neutron time of flight detectors, a fast framing camera, optical light gates, and a time-gated neutron and x-ray imager. In this presentation, we will describe the device operation and recent results. Preliminary x-ray and neutron images will be presented as well.

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