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Load Designs For MJ Dense Plasma Foci[1] A. LINK, A. POVLIUS, R. ANAYA, M. G. ANDERSON, J. R. ANGUS, C. M. COOPER, S. FALABELLA, LLNL, D. GOERZ, Goerz Engineering Solutions LLCGoerz Engineering Solutions LLC, D. HIGGINSON, I. HOLOD, M. MCMAHON, J. MITRANI, E.S. KOH, A. PEARSON, Y. A. PODPALY, R. PRASAD, D. VAN LUE, J. WATSON, A. E. SCHMIDT, LLNL — Dense plasma focus (DPF) Z-pinches are compact pulse power driven devices with coaxial electrodes. The discharge of DPF consists of three distinct phases: first generation of a plasma sheath, plasma rail gun phase where the sheath is accelerated down the electrodes and finally an implosion phase where the plasma stagnates into a z-pinch geometry. During the z-pinch phase, DPFs can produce MeV ion beams, x-rays and neutrons. Megaampere class DPFs with deuterium fills have demonstrated neutron yields in the 10^{12} neutrons/shot range with pulse durations of 10-100 ns. Kinetic simulations using the code Chicago are being used to evaluate various load configurations from initial sheath formation to the final z-pinch phase for DPFs with up to 5 MA and 1 MJ coupled to the load. Results will be presented from the preliminary design simulations. LLNL-ABS-734785

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A. Link
LLNL

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