

Abstract Submitted
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Magnetic Field Build-up in SSPX¹ R.D. WOOD, B.I. COHEN, D.N. HILL, E.B. HOOPER, L.L. LODESTRO, H.S. MCLEAN, J.M. MOLLER, C.A. ROMERO-TALAMÁS, Lawrence Livermore National Laboratory — Magnetic field build up experiments in SSPX using the modular capacitor bank have produced discharges (extended formation) with the highest edge poloidal fields and multi-pulse discharges that continue to build magnetic field in a stepwise manner. The ratio of B_p/I_{gun} for the multi-pulse discharges ($\sim 0.9\text{T/MA}$) exceeds the value of $B_p/I_{gun}=0.65\text{T/MA}$ obtained with a standard discharge (fast formation followed by sustainment discharge). As suggested by simulations, the higher ratio with the new injected current waveforms may reflect the longer total formation pulse duration (building to higher field due to the longer current pulse) than previous discharges. Recent results from multi-pulse and extended formation experiments and near mega-ampere injected current discharges will be presented.

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Reginald Wood
Lawrence Livermore National Laboratory

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