

Abstract Submitted  
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**Equilibrium Reconstructions and Improved Loop Voltage Control of LTX Plasmas**<sup>1</sup> J.C. SCHMITT, R. KAITA, T. KOZUB, R. MAJESKI, E. MERINO, Princeton Plasma Physics Laboratory — The Lithium Tokamak eXperiment (LTX) is a spherical tokamak with a close fitting low-recycling wall composed of thin evaporated lithium layers on stainless steel-lined copper shells. The combination of high electrical conductivity of the copper shells and transient coil and plasma currents results in long-lived eddy currents with large spatial extent in the close fitting wall which, in turn, affects the start-up and operations of tokamak plasmas. The ohmic heating power supply control system was configured to allow better control of the loop voltage while reducing the induced eddy currents. Upgrades to the magnetic diagnostic system include repairs to existing diagnostics and the addition of poloidal arrays of sensors and saddle coils to more effectively perform equilibrium reconstructions of the plasma discharge. Details of the signal processing will be presented and 2D and 3D reconstructions will be compared.

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