

Abstract Submitted
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Equilibrium Reconstructions and Eddy Currents in LTX J.C. SCHMITT, PPPL, J. BIALEK, Columbia University, C.H. HANSEN, University of Washington, R. MAJESKI, J.E. MENARD, PPPL — The Lithium Tokamak eXperiment (LTX) is a spherical tokamak with a close-fitting low-recycling wall of lithium deposited on a stainless steel-lined copper shell. The combination of low resistivity of the copper shell, toroidal and poloidal breaks in the shell and transient coil and plasma currents results in long-lived non-axisymmetric eddy currents in the shell which produce a non-axisymmetric magnetic field. Magnetic sensors measure a “local” magnetic field in the toroidal break region that differs from the toroidally-averaged field. To use these signals as constraints in 2-D axisymmetric equilibrium reconstructions requires compensation of the 3-D components present in the signals. The work will discuss the results of the 3-D modeling of the eddy currents and magnetic fields with the VALEN code, along with the progress made with equilibrium reconstructions with PSI-TRI and LRDfit. Work supported by US DOE contract DE-AC02-09CH11466.

John Schmitt
PPPL

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