

Abstract Submitted  
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**2-D modeling of eddy currents in the conducting shell of the Lithium Tokamak Experiment (LTX)**<sup>1</sup> A.D. JONES, L. BERZAK, J. MENARD, R. KAITA, Princeton Plasma Physics Laboratory — LTX is a low aspect-ratio tokamak with a heated metal shell designed to be coated with liquid lithium. While magnetic fluxes through diagnostic Mirnov coils and flux loops on the LTX machine yield data which may be used to constrain plasma parameters during reconstruction, the measured signals are often highly sensitive to magnetically induced eddy currents in the conducting shell. A meshed representation of the conducting metal shell around the LTX machine is implemented into the 2D, axisymmetric LRDFIT code and used to reconstruct sensor behavior in the presence of eddy currents. The resultant model-predicted signals are compared to the measured diagnostic signals, as well as to model-predicted signals from LRDFIT in the absence of the conducting shell mesh. Alternative methods for the inclusion of the conducting shell in reconstruction codes are discussed.

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