

Abstract Submitted  
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**Electron Density Diagnostics on the Lithium Tokamak eXperiment (LTX)**<sup>1</sup> D.P. LUNDBERG, L. BERZAK, R. KAITA, T. KOZUB, R. MAJESKI, K. SNIECKUS, T. STRICKLER, Princeton Plasma Physics Laboratory, C.L. ELLISON, U. Colorado-Boulder — LTX presents a unique opportunity to diagnose plasmas with low levels of particle recycling. Electron density measurements are necessary to evaluate the effects on global particle transport, and supplement the magnetic sensor data for equilibrium reconstruction. A pair of 2mm interferometers are employed on LTX. The first system samples a horizontal chord, aligned in the radial direction, and reflected off of the centerstack. It is mounted on a translation table whose vertical position is moved between shots via a stepper motor. Chords from near midplane to within 90% of the plasma radius can be sampled. The second interferometer measures a single vertical chord, with a line of sight through the core of the plasma. This fixed core density measurement allows shot-to-shot variations to be accounted for when the horizontal viewing optics are moved. Radial density profiles will be reconstructed with Abel inversion. The first density measurements are presented, and future plans for LTX density diagnostics are discussed.

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