Abstract Submitted
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Overview of the Lithium Tokamak eXperiment-Beta*[1] R. KAITA, D.P. BOYLE, T. KOZUB, M. LUCIA, R. MAJESKI, E. MERINO, PPPL, F. SCOTTI, LLNL, B. E. KOEL, Princeton U., S. KUBOTA, T. RHODES, UCLA, T. BIEWER, M. REINKE, ORNL, D. DONOVAN, U. Tennessee Knoxville — The Lithium Tokamak Experiment-Beta (LTX-Beta) seeks to extend the plasma performance of LTX with higher plasma current and toroidal magnetic field. A new neutral beam injection (NBI) system will provide significant auxiliary heating and core fueling. The NBI will enable measurements of the core ion temperature and lithium concentration using the ORNL charge-exchange spectroscopy (CHERS) system. Toroidal rotation measurements and studies of toroidal momentum transport will also be possible with the CHERS diagnostic. Upgrades to the UCLA reflectometer and interferometer systems will be implemented for core and edge electron density fluctuations. A new capability for transferring samples in vacuo after plasma exposure to an offline surface science laboratory is also planned for analysis with higher resolution instrumentation. This presentation will describe progress on these facilities, and discuss how they enable LTX-beta to build on past LTX results in the further exploration of low recycling, high confinement regimes.

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Robert Kaita
Princeton Plasma Physics Laboratory

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