

Abstract Submitted
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Status of the the Lithium Tokamak eXperiment (LTX)¹ R. MAJESKI, L. BERZAK, S. GERSHMAN, E. GRANSTEDT, C.M. JACOBSON, R. KAITA, T. KOZUB, B. LEBLANC, N. LOGAN, D.P. LUNDBERG, M. LUCIA, K. SNIECKUS, D. SOBERS, J. TIMBERLAKE, L. ZAKHAROV, PPPL, T. GRAY, R. MAINGI, ORNL, K. TRITZ, JHU, L.R. BAYLOR, C.E. THOMAS, Third Dimension, V. SOUKHANOVSKII, LLNL, M. NIETO, CICATA-IPN — LTX is a modest spherical tokamak with $R=0.4$ m, $a=0.26$ m, and $\kappa=1.5$. Design targets are a toroidal field of 3.2 kG, plasma current up to 400 kA, and a discharge duration of 100 msec. LTX is the first tokamak designed to investigate modifications to equilibrium and transport when global recycling is reduced to 10 – 20%. LTX is fitted with a heated (up to 500 C) shell, conformal to the last closed flux surface, over 85% of the plasma surface area. The plasma-facing surface of the shell will be evaporatively coated with a thin (< 100 micron) layer of molten lithium, retained by surface tension. A second shell has been constructed, and plasma-sprayed with molybdenum as a high-Z substrate for the lithium. LTX is thus the first tokamak designed to operate with a full hot high-Z wall. First operation with a liquid lithium film wall is scheduled for Summer 2010; results will be presented.

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