

Abstract Submitted
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Langmuir probe diagnostics on the Lithium Tokamak Experiment (LTX)¹ M. LUCIA, S. GERSHMAN, D. SOBERS, R. KAITA, R. MAJESKI, L. BERZAK, C.M. JACOBSON, T. KOZUB, D.P. LUNDBERG, R. MARSALA, K. SNIECKUS, J. TAYLOR, PPPL — Experiments on LTX will provide the first data from a tokamak with liquid lithium as the main ($\sim 90\%$ surface coverage) plasma-facing component (PFC). Previous work on the Current Drive Experiment Upgrade has suggested that a low-recycling lithium wall would dramatically alter edge plasma temperature and density. A Langmuir probe diagnostic has been constructed to measure these plasma parameters in the scrape-off layer on the midplane of LTX. The probe assembly has four cylindrical tips, constituting a floating probe, a swept single probe, and a swept double probe. Analysis of probe characteristics will be presented to compare the edge plasma parameters with and without lithium PFC operation. Langmuir probe tips were designed to limit and tolerate build-up of lithium and lithium oxide surface coatings, as they affect probe results in poorly understood ways. The effects of any coatings that form will be discussed.

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