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Recycling and Edge Impurities on the Lithium Tokamak eXperiment¹ E.M. GRANSTEDT, R. KAITA, R. MAJESKI, J. SQUIRE, PPPL, K. TRITZ, JHU — Measurements of neutral hydrogen emission demonstrate that the Lithium Tokamak eXperiment (LTX) has been able to achieve a range of hydrogen recycling conditions depending on the lithium wall conditioning. In particular, with a thin layer of a solid active lithium surface deposited by evaporation, LTX has excellent density control and neutral hydrogen emission drops to very low levels consistent with low-recycling. Despite the stainless-steel substrate, spectroscopic emission measurements suggest carbon wall fluxes are significant. RGA traces after lithium is evaporated suggest the lithium is reacting chemically with carbon. To better understand hydrogen recycling and wall impurity sources, neutral and impurity transport modeling is in process. Finally, experiments with a thick layer of liquid lithium in the lower shell reservoirs are underway.

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