Abstract Submitted
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First results from the Lithium Tokamak Experiment - β[1] R. MAJESKI, R. E. BELL, D. P. BOYLE, P. E. HUGHES, T. KOZUB, A. LEVINESS, E. MERINO, X. ZHANG, PPPL, J. K. ANDERSON, W. CAPECCHI, U. Wis., P. BEIERSDORFER, M. A. DORF, F. SCOTTI, V. A. SOUKHANOVSKII, LLNL, T. BIEWER, D. B. ELLIOTT, ORNL, D. DONOVAN, R. KAITA, A. MAAN, U. Tenn., C. HANSEN, U. Wash., B. KOEL, Princeton U., S. KUBOTA, T. RHODES, UCLA, L. E. ZAKHAROV, LiWFusion — LTXβ, the upgrade to the Lithium Tokamak Experiment, has operated with full lithium coating of the plasma-facing surfaces, at increased toroidal field of 0.3 T. Plasma current has so far been limited to 100 kA. The upgrade includes a neutral beam injector provided by Tri-Alpha Energy Technologies - 600 kW of beam power has been injected so far. Up to 60% of the injected power is deposited in the plasma, in agreement with NUBEAM modeling. Significant beam fueling is observed under some conditions. New insertable lithium evaporators have been installed on LTXβ, which provide full wall coatings, with a 10-15 minute evaporation cycle. LTXβ retains the same plasma geometry, and the heated high-Z liner featured in LTX. Upgrades to the diagnostic set include active CHERs. New Lyman- α arrays will permit a determination of energy confinement time as a function of recycling. Here we will discuss first results from LTXβ, as well as the research goals.

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