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MHD stability limits in LTX[1] JANARDHAN MANICKAM, RICHARD MAJESKI, ROBERT KAITA, JONGSOO YOO, LEONID ZAKHAROV, Princeton Plasma Physics Laboratory — The Lithium Tokamak eXperiment, LTX, is expected to open access to new regimes in plasma-profile space. Of particular interest is the regime characterized by nearly flat T_e, a broad T_i, and a high edge current density. Another unique feature of LTX is the close fitting liquid Lithium wall, intended primarily for controlling the recycling; it would also affect the stability. This report addresses the ideal MHD stability of LTX. Target profiles are obtained from the ASTRA transport simulation code and the PEST stability code is used for stability analysis. Preliminary indications are that the n=1 mode, where n is the toroidal mode number, is stabilized by the close fitting shell, and a second stability regime for kink modes is accessed, as β approaches $\beta_N \sim 10$. Results for n=1 and higher-n, will be presented.

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