

Abstract Submitted  
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**Magnetic Diagnostics Suite Upgrade on LTX- $\beta$** <sup>1</sup> P.E. HUGHES, R. MAJESKI, R. KAITA, T. KOZUB, PPPL, C. HANSEN, U. Washington, G. SMALLEY, D.P. BOYLE, PPPL — LTX- $\beta$  will be exploring a new regime of flat temperature-profile tokamak plasmas first demonstrated in LTX [D.P. Boyle *et al. PRL* July 2017]. The incorporation of neutral beam core-fueling and heating in LTX- $\beta$  is expected to increase plasma beta and drive increased MHD activity. An upgrade of the magnetic diagnostics is underway, including an expansion of the reentrant 3-axis poloidal Mirnov array, as well as the addition of a toroidal array of poloidal Mirnov sensors and a set of 2-axis Mirnov sensors measuring fields from shell eddy currents. The poloidal and toroidal arrays will facilitate the study of MHD mode activity and other non-axisymmetric perturbations, while the new shell eddy sensors and improvements to existing axisymmetric measurements will support enhanced equilibrium reconstructions using the PSI-Tri equilibrium code [C. Hansen *et al. PoP* Apr. 2017] to better characterize these novel hot-edge discharges.

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