

Abstract Submitted
for the DPP14 Meeting of
The American Physical Society

Enhanced Alignment Techniques for the Thomson Scattering Diagnostic on the Lithium Tokamak eXperiment (LTX)¹ ENRIQUE MERINO, TOM KOZUB, DENNIS BOYLE, MATTHEW LUCIA, RICHARD MAJESKI, ROBERT KAITA, JOHN C. SCHMITT, BENOIT LEBLANC, AHMED DIALLO, Princeton Plasma Physics Laboratory (PPPL), C.M. JACOBSON, University of Wisconsin-Madison — The Thomson Scattering (TS) System in LTX is used to measure electron temperature and density profiles of core and edge plasmas. In view of TS measurements showing low signal-to-noise and high stray light, numerous improvements were performed in recent months. These will allow for better measurements. Due to the nature of LTX's lithium coated walls, a particular challenge was presented by alignment procedures which required insertion and precise positioning of equipment in the vacuum vessel without breaking vacuum. To overcome these difficulties, the laser flight tubes were removed and an alignment probe setup placed along the beam line on a differentially pumped assembly. The probe was then driven into the vacuum vessel and back-illumination of the viewing optics on it allowed for alignment and spatial calibration. Other upgrades included better bracing of flight tubes and viewing optics as well as a redesigned beam dump. An overview of these improvements will be presented.

¹Supported by US DOE contracts DE-AC02-09CH11466 and DE-AC52-07NA27344.

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Date submitted: 11 Jul 2014

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