

Abstract Submitted
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Design and Calibration of Thomson Scattering Diagnostic for TCSU K.Y. LEE, R.P. GOLINGO, University of Washington, Redmond Plasma Physics Laboratory — A single pulse ruby laser Thomson scattering system is being designed and installed to measure the electron temperature T_e and density n_e profiles in a Rotating Magnetic Field (RMF) driven FRC plasma. Based on measurements that show the total temperature is about 150 eV and the density is about 10^{19} m^{-3} in the Translation, Confinement and Sustainment Upgrade (TCSU) experiment, a T_e of about 100 eV is expected. The system allows observation of 5 points on the bottom half section of the 40 cm radius TCSU device. Each spatial point is resolved with a GA polychromator attached to three PPPL pre-amplifier modules. A model to relate the fast and slow channel of the pre-amplifier followed by a spectral calibration of the polychromator characterizing the transmission of the bandpass interference filters is described. The overall system design will be discussed and initial results may be presented.

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