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## 4.55 Spectral and intensity calibration of a Thomson scattering diagnostic for the C-2W field-reversed configuration plasma experiment

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The C-2W Thomson Scattering diagnostic consists of two individual systems for monitoring electron temperature and density; one system in the central region is operational and the second system, currently under design, will monitor the open field line jet region [1]. The laser and collection optics for this diagnostic will be described separately [2]. A broadband source and a scanning monochromator have been setup for the spectral calibration of the polychromators. The system intensity calibration is performed using Rayleigh scattering with the vessel filled with argon gas at different pressures. This paper will detail the design principles and results of the spectral channel configurations, signal conditioning of the polychromators and their spectral calibrations, and the Rayleigh scattering calibration for the whole system response. [1] K. Zhai Thomson scattering systems on C-2W field-reversed configuration plasma experiment HTPD 2018 [2] A. Ottaviano Characterization of system components for Thomson scattering diagnostics on C-2W HTPD 2018

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