

Abstract Submitted
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Study of high field side/low field side asymmetry in the electron temperature profile with electron cyclotron emission¹ V.R. GUGLIADA, Ithaca Coll, M.E. AUSTIN, M.W. BROOKMAN, U. Texas — Electron cyclotron emission (ECE) provides high resolution measurements of electron temperature profiles ($T_e(R, t)$) in tokamaks. Calibration accuracy of this data can be improved using a sawtooth averaging technique. This improved calibration will then be utilized to determine the symmetry of T_e profiles by comparing low field side (LFS) and high field side (HFS) measurements. Although T_e is considered constant on flux surfaces, cases have been observed in which there are pronounced asymmetries about the magnetic axis, particularly with increased pressure. Trends in LFS/HFS overlap are examined as functions of plasma pressure, MHD mode presence, heating techniques, and other discharge conditions. This research will provide information on the accuracy of the current two-dimensional mapping of flux surfaces in the tokamak. Findings can be used to generate higher quality EFITs and inform ECE calibration.

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