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Status of ECE Diagnostics for ITER RICHARD ELLIS, University of Maryland, MAX AUSTIN, PERRY PHILLIPS, WILLIAM ROWAN, JOSEPH BENO, University of Texas, RUSSELL FEDER, Princeton Plasma Physics Laboratory, AMANDA HUBBARD, Massachusetts Institute of Technology, HITESH PANDYA, Institute for Plasma Physics India — ECE on ITER will be used to measure electron temperature profiles and non thermal features of the distribution. The diagnostic has two systems. One is radial, primarily for temperature profile measurement ; the other views at a small oblique angle and will be dedicated to measuring non-thermal emission. Radiation will be conducted to the diagnostic area by corrugated waveguide, dielectric waveguide, or quasioptical chains. Emission will be measured with a multichannel Michelson interferometer which provides wide wavelength coverage, and two microwave radiometers which cover the fundamental and second harmonic ECE (X and O mode) and have excellent time resolution. In-situ calibration employs a hot calibration source which has been designed, constructed, bench tested, and will be installed on two other tokamaks. We report extensive wideband transmission measurements made on the DIII-D Michelson corrugated waveguide system as well as preliminary measurements on sections of ITER size waveguide.

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