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Electron Temperature and Potential Measurements in a Helicon Plasma[1] J. PLANK, T.R. HAYES, M. GILMORE, University of New Mexico — Measurements of plasma potential, floating potential, and electron temperature, Te, are notoriously difficult in RF-produced plasmas such as helicons. This work presents comparisons of potential and Te measurements made via swept and stepped compensated and uncompensated single and double Langmuir probes, emissive probes, and static triple probes. These measurements have been made in the HelCat (Helicon-Cathode) linear plasma device at the University of New Mexico using HelCat's helicon source. HelCat is a 4 m long, 0.5 m diameter device with magnetic field, $B_0 < 2.2$ kG, and typical densities $n \sim 10^{18}$ – 10^{20} m^{-3}. Comparisons between the measurements and expected theoretical differences will be presented.

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