

Abstract Submitted
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First Results from the Neutral Particle Analyzer at the Madison Symmetric Torus RFP¹ EPHREM MEZONLIN, JAMES TITUS, JOSEPH JOHNSON III, Florida A&M University, F.V. CHERNYSHEV, Ioffe Physical-Technical Institute, St. Petersburg, Russia, MST TEAM, UNIVERSITY OF WISCONSIN, MADISON, WI COLLABORATION — A neutral particle analyzer has been used at the Madison Symmetric Torus (MST) to study T_i with Neutral Beam Injection (NBI). The Compact Neutral Particle Analyzer (CNPA), formerly on the Sustained Spheromak Physics Experiment (SSPX) with Hydrogen plasmas, has been modified and calibrated for MST's deuterium plasmas. The new calibration has measured the flux of D^0 atoms emitted by the plasma which strip the neutrals in a stripping cell with Helium gas (10^{-2} Torr). The ions are focused by two permanent magnets into 25 channels with an energy range from .34 – 5.2 keV. From the channels in the keV range, T_{eff} (T_i) has been measured to be around 600 eV during sawtooth events and 200 eV in between events. Further T_i studies will compare on and off neutral beam shots.

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