

Abstract Submitted  
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**Density Measurement of Compact Toroid with Mach-Zehnder Interferometer**<sup>1</sup> LAUREN LAUFMAN-WOLLITZER, DOUG ENDRIZZI, MATT BROOKHART, KEN FLANAGAN, CARY FOREST, Univ of Wisconsin, Madison — Utilizing a magnetized coaxial plasma gun (MCPG) built by Tri Alpha Energy, a dense compact toroid (CT) is created and injected at high speed into the Wisconsin Plasma Astrophysics Laboratory (WiPAL) vessel. A modified Mach-Zehnder interferometer from the Line-Tied Reconnection Experiment (LTRX) provides an absolute measurement of electron density. The interferometer is located such that the beam intersects the plasma across the diameter of the MCPG drift region before the CT enters the vessel. This placement ensures that the measurement is taken before the CT expand. Results presented will be used to further analyze characteristics of the CT.

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