

Abstract Submitted
for the DPP17 Meeting of
The American Physical Society

Microwave Interferometric Density Measurements of a Pulsed Helicon Source¹ ETHAN SCIME, EARL SCIME, DEREK THOMPSON, West Virginia University — The intense rf environment of a helicon plasma source is problematic for electrostatic probe measurements of plasma density, particularly at low neutral pressures. Here we present measurements of the line-integrated plasma density in a helicon plasma source using a multi-frequency (20-40 GHz) microwave interferometer. The design of the diagnostic and the data acquisition system are presented, as well as a comparison to density profiles obtained with a moveable electrostatic probe. A parametric fit to the probe profile measurements is used to determine the peak density from the microwave density measurements.

¹This work supported by U.S. National Science Foundation Grant No. PHY-1360278.

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Date submitted: 06 Jul 2017

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