

Abstract Submitted
for the DPP17 Meeting of
The American Physical Society

Characterization of quasi-free-space microwave-driven argon plasmas¹ ADRIAN LOPEZ, University of Michigan, REMINGTON REID, Air Force Research Laboratory, Kirtland AFB — The Air Force Research Laboratory is interested in studying the interaction of high power electromagnetic waves with plasmas. A multi-kW, 5GHz microwave system is used for generating quasi-free-space microwave-driven argon plasma at pressures ranging from 150 to 200 mTorr. In previous experiments, two general configurations of sustainable quasi-free-space plasma discharges were observed using this system but were never fully characterized. Using a Triple Langmuir Probe (TLP) system, the electron temperature and density of these two observed configurations are measured as they change through time. In addition, a translation stage allows for TLP measurements to be taken in different regions of the generated plasma.

¹Research supported by the Air Force Research Laboratory.

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Date submitted: 14 Jul 2017

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