Abstract Submitted
for the DPP15 Meeting of
The American Physical Society

Optical Characterization of Plasma Generated in a Commercial Grade Plasma Etching System ASHLEY HARDY, DERETH DRAKE, Valdosta State University — The use of plasma for etching and cleaning of many types of metal surfaces is becoming more prominent in industry. This is primarily due to the fact that plasma etching can reduce the amount of time necessary to clean/etch the surface and does not require large amounts of environmentally hazardous chemicals. Most plasma etching systems are designed and built in academic institutions. These systems provide reasonable etching rates and easy accessibility for monitoring plasma parameters. The downside is that the cost is typically high. Recently a number of commercial grade plasma etchers have been introduced on the market. These etching systems cost near a fraction of the price, making them a more economical choice for researchers in the field. However, very few academics use these devices because their effectiveness has not yet been adequately verified in the current literature. We will present the results from experiments performed in a commercial grade plasma etching system, including analysis of the pulse characteristics observed by a photo diode and the plasma parameters obtained with optical emission spectroscopy.

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Date submitted: 15 Jul 2015 Electronic form version 1.4