

Abstract Submitted
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Enhanced Signal to Noise in a Turbulent Laser Enhanced Laser Induced Plasma¹ DELONIA WIGGINS, STEPHEN ROBERSON, JOSEPH A. JOHNSON III, Florida A&M University — A Nd-Yag pulsed laser created a plasma at a focal point in the path of a CW 1kW fiber laser beam. The CW fiber laser power increases in steps of 100W from 0W (CW fiber laser off) up to 1000W. The plasma is created in air. The optical emissions from this turbulent plasma were captured with two fiber optic cables and transmitted first to two monochrometers and ultimately to an ICCD and an oscilloscope. From the emissions of the plasma, the spectra of both the ionized and neutral lines can be captured using the ICCD. Both spectra are influenced as the power of the CW fiber laser increases. More specifically, the signal to noise ratio is systematically enhanced by the presence of the CW fiber laser beam in the path of the plasma.

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