

Abstract Submitted
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Evidence of Self-Induced Stark Lines in Turbulent Hypersonic Argon Plasmas¹ MARQUITA SCOTT, JAMES TITUS, ALONZO ALEXANDER, KYRON WILLIAMS, JOSEPH JOHNSON III, Florida A&M University — Recent experimental evidence suggests that turbulence is influenced by external electromagnetic fields. Localized magnetic fields might also distort turbulent systems. Using a high-speed spectrograph with an echelle grating and a dual order prism attached to a CCD, we confirm the existence of localized self-induced stark effect lines in argon plasmas produced by the arc-driven shock tube. These Stark lines are treated as a byproduct of a self-induced magnetic field. This diagnostic identifying the lines performs high-speed spatial scans of 160nm in range of up to 20 microseconds allowing for more defined results for analysis. In this talk the diagnostic of the system will be presented.

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