

Abstract Submitted  
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**Observation of Thermal Effects for Shock Wave Acceleration in Glow Discharge Plasma**<sup>1</sup> NIRMOL K. PODDER, ANASTASIA V. TARASOVA, RALPH B. WILSON IV, Troy University, Troy, AL — Shock waves launched into weakly-ionized plasmas experiences an increased velocity and dispersion. These effects have been primarily attributed to: (i) gas temperature gradient and thermal effects, and (ii) plasma-specific (electron density, temperature, and electric field) effects. In this work, we investigate the thermal effects on the observed shock wave modifications in plasma. At a fixed Mach number, shock waves are launched with an incremental delay from the switch-on of the discharge. It is found that the shock wave velocity in plasma increases as the delay is increased, and reaches a steady-state value at a delay of about 100 ms.

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