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Characteristics of a Propagating Shock Wave in Gas Discharges¹ AARON LOCASCIO, NIRMOL PODDER, Troy University, Troy, AL, LANE ROQUEMORE, Princeton Plasma Physics Lab — Acoustic shock waves are launched in both neutral and ionized gases and their properties are measured with pressure sensors, laser beams, and a high-speed camera. The pressure sensors yield information on the total gas pressure, the deflection of the laser beams gives an indication of the gas density, and the high-speed camera captures the dynamics of the propagating shock wave. Shock wave propagation velocities (\sim Mach 2) are determined from all three methods and compared well with one another. The emission characteristic and structure of the shock-front are obtained from the laser beam deflection signals and the camera images.

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