P4767: USING ULTRAVIOLET LASER ABSORPTION SPECTROSCOPY TO MEASURE VIBRATIONAL TEMPERATURE TIME HISTORIES OF SHOCK-HEATED OXYGEN

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Goal: Experimentally quantify molecular chemistry in hypersonic air flows

Approach

- Measure how O_2 temperature and concentration evolve at hypersonic conditions

Method - Laser Absorption Spectroscopy

- Use a shock tube to simulate hypersonic environment
- Use UV lasers to non-intrusively measure O_2 temperature and concentration in a shock tube