DIODE LASER-BASED EQUIVALENCE RATIO MEASUREMENT

Kevin L. McNesby, Robert Daniel, Andrzej Miziolek, and Richard Wainner
US Army Research Laboratory

William M. Jackson
University of California-Davis

Ian McLaren
McLaren Research

ABSTRACT

A diode laser-based sensor for rapid measurement (response time 10 msec) of vapor phase fuel/oxygen ratios is described. Experimental results are shown for vapor phase fuel/oxygen concentrations above pools of JP-8 fuel at different temperatures. Results are correlated with flashpoint data for several different hydrocarbon fuels.

This work is supported by the Next-Generation Fire Suppression Technology Program (NGP).