

Abstract Submitted
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Raman Thermometry Measurements of Shocked Explosives

SHAWN MCGRANE, TARIQ ASLAM, Los Alamos National Laboratory — Shock temperature in high explosives is an important, but poorly constrained, parameter necessary for including temperature dependent reaction rates in reactive burn modeling. We used attenuated detonation waves to shock the explosives PBX 9501, PBX 9502, and nitromethane and nanosecond Stokes/anti-Stokes Raman thermometry to measure the shock temperatures. Velocimetry was used to characterize the shock states. We will report on the methods, experimental results, and comparison to theoretical predictions. We will also detail efforts to obtain spatially resolved shock temperatures with line imaging.

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