

Abstract Submitted
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The equation of state of predominant detonation products¹
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more, California 94551 — The equation of state of detonation products, when in-
corporated into an experimentally grounded thermochemical reaction algorithm can
be used to predict the performance of explosives. Here we report laser based Impul-
sive Stimulated Light Scattering measurements of the speed of sound from a variety
of polar and nonpolar detonation product supercritical fluids and mixtures. The
speed of sound data are used to improve the exponential-six potentials employed
within the Cheetah thermochemical code. We will discuss the improvements made
to Cheetah in terms of predictions vs. measured performance data for common
polymer blended explosives. Accurately computing the chemistry that occurs from
reacted binder materials is one important step forward in our efforts.

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