

Abstract Submitted
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Pairing Ultrafast Spectroscopy to Nanosecond Shock Generation

KATHRYN BROWN, Los Alamos National Laboratory, MICHAEL POWELL, Purdue University, Los Alamos National Laboratory, SHAWN MCGRANE, Los Alamos National Laboratory — Time-resolved spectroscopy on shocked explosives can help elucidate the evolution of the chemical reactions that result from shock compression. We have previously demonstrated the transient visible absorption of explosives and other materials in the first 300 ps of a sustained shock, combining ultrafast shock generation with ultrafast visible absorption spectroscopy. In order to expand the sustained shock duration and probe the evolving chemistry of materials at later times, we couple laser-driven flyer plates that impart a 10 ns shock into a target with ultrafast transient visible absorption spectroscopy.

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