

Abstract Submitted
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Characterization of Energetic Properties nano-particle Silicon¹

BLAKE MCCRACKEN, TONI SAUNCY, Angelo State University Department of Physics — Porous silicon has been reported to have an unusual property of highly energetic reactions when subjected to oxidizers and nitrates. Characterization of such energetic properties has been done using a variety of methods, many of which are well beyond the cost allowance for undergraduate level research. In this work, we explore a low cost method using inexpensive piezoelectric sensors and standard storage oscilloscopes. The voltage pulses from the sensors provide time dependent signals that can be used in the characterization of the propagation velocity of these energetic reactions in porous silicon particles, with the ultimate goal of discerning more about the nature of the energy produced upon detonation.

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Toni Sauncy
Angelo State University Department of Physics

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