

Abstract Submitted  
for the TSF12 Meeting of  
The American Physical Society

**Characterization of Energetic Properties of Porous Silicon** BLAKE

MCCRACKEN, Angelo State University — Porous silicon has recently been found to explode when under certain oxidation or nitration conditions. However, characterization of the velocity and pressure of these explosions is not been complete, as there are many kinds of porous silicon. We present a simple and inexpensive method to measure these properties using PVDF piezoelectric gauges. Here, the gauges are calibrated qualitatively against common firecrackers, similar to black cats. While the pressure measurements from our results are still being analyzed, the velocity of the shock wave produced by the explosion is faster than the speed of sound, about 430 m/s.

Blake McCracken  
Angelo State University

Date submitted: 21 Sep 2012

Electronic form version 1.4