

Abstract Submitted
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Characterising shock propagation through inert beds JAMES EDGELEY, CHRISTOPHER BRAITHWAITE, University of Cambridge — Optical velocimetry methods have been used extensively to measure the detonation wave velocity in explosives. The reaction zone length can subsequently be inferred using one of several methods, most involving transmitting the shock into an acceptor component made of another material and observing the wave's attenuation. The ultimate aim of this investigation is to develop a method optimised for characterising the reaction zone in low density PETN. The initial procedure involves a shock imparted by a gas gun into an inert bed in otherwise similar conditions. The design of the acceptor component is varied, and in each case an appropriate calculation is done to determine the size and profile of the shock. Laser interferometry is used to take velocity measurements where necessary. The results are compared against the input shock from the gun to assess the suitability of the apparatus.

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