

Abstract Submitted
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Novel Use of PVDF Gauges to Observe the Porosity Effects of PETN KRISTINA PARRACK, Los Alamos National Laboratory — In order to better understand the performance of detonators and the effects of porosity in HE (high explosives) a single experiment utilizing a combination of diagnostics has been created. These diagnostics include the Rogowski coil and PVDF (polyvinylidene difluoride) gauges. This project focuses on the use of PVDF gauges not only as the traditional stress sensor but also to observe the electric effects of the reaction wave as it compresses HE crystals. These electric effects can be observed through the Hayes electric effect. The PVDF gauges were set up in a variety of orientations in order to determine the best set-up to obtain both the stress and electric effects of the explosive utilized throughout testing. The stress and electric effects are observed with the PVDF gauges and these data are correlated with the various HE porosities.

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