

Abstract Submitted
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3-Dimensional X-Ray Tomography of Plastic Bonded Energetic Stimulant Materials TONI LILLY, NEIL BOURNE, JEREMY MILLETT, AWE, Aldermaston, PHILIP WITHERS, University of Manchester — Given that modern energetic compositions are usually composite systems, consisting of a hard energetic crystal in a softer polymer binder, knowledge of the microstructure is vital in understanding the performance and safety issues concerned. In addition, modern hydrocodes have reached the point where microstructural information can be used as direct input data for modelling purposes. The traditional approach has involved interpolation of two-dimensional sections, but x-ray tomography (XRT), allows a fully three-dimensional representation of the microstructure to be built up. In this paper, we present data on a number of inert plastic bonded stimulant materials (PBSs) to demonstrate the viability of this technique. British Crown Copyright MOD/2009.

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