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Detonation Corner Turning Investigations in Non-TATB Based Explosives OCTAVIO CERVANTES, JOHN MOLITORIS, PHILIP SOUERS, Lawrence Livermore National Laboratory — Previous work in TATB based explosives shows impaired detonation corner-turning (DCT) leading to the formation of dead-zones (DZ) - regions of the energetic material that never detonate. Work by others reported the formation of dead-zones in Composition B, but subsequent experimental work at Lawrence Livermore National Laboratory (LLNL) in Composition B did not verify this. Here we report on current research at LLNL examining detonation corner turning in a range of near- ideal and non-ideal explosives including: C-4, Composition B, PBXN-109, and others. Other work examines the question of whether DCT-DZ are properties of non-ideal high- explosives. Our results are compared with DCT-DZ issues in LX-17, a TATB based explosive. The important question we endeavor to answer is whether DCT–DZ issues are a property of non-ideal explosives or an intrinsic behavior of TATB based energetic materials. High-resolution x-ray image data will be presented along with numerical modeling to help understand these data. All work was performed at the LLNL High Explosives Application Facility using our unique time sequence flash x- ray capabilities. This work was performed under the auspices of the U.S. Department of Energy by Lawrence Livermore National Laboratory under contract DE-AC52-07NA27344. Lawrence Livermore National Security, LLC. LLNL-ABS-708964

Octavio Cervantes
Lawrence Livermore National Laboratory

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