

Abstract Submitted  
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**Characterizing Detonating LX-17 Charges Crossing a Transverse Air Gap with Experiments and Modeling** LISA M. LAUDERBACH, P. CLARK SOUERS, FRANK GARCIA, PETER VITELLO, KEVIN S. VANDERSALL, Energetic Materials Center, Lawrence Livermore National Laboratory, Livermore, CA 94550 — Experiments were performed using detonating LX-17 (92.5% TATB, 7.5% Kel-f by weight) charges with various width transverse air gaps both with and without manganin piezoresistive in-situ gauges present. The experiments, performed with 25 mm diameter by 25 mm long LX-17 pellets with the transverse air gap in between, showed that transverse gaps up to about 3 mm could be present without causing the detonation wave to fail to continue as a detonation. A JWL++/Tarantula code was utilized to model the results and compare with the in-situ gauge records with reasonable agreement to the experimental data. This work will present the experimental details as well as comparison to the model results. This work performed under the auspices of the U.S. Department of Energy by Lawrence Livermore National Laboratory under Contract DE-AC52-07NA27344.

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