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Modeling LX-17 Detonation Growth and Decay Using the Ignition and Growth Reactive Flow Model CRAIG TARVER, STEVEN CHIDESTER, LLNL — The Ignition and Growth reactive flow model parameters for detonation waves in the TATB-based insensitive high explosive LX-17 are applied to two recent experiments. One experiment measures the slow increases in detonation velocity and pressure over several centimeters in confined charges as the steady state Chapman-Jouguet (C-J) values are approached. A second experiment measures the rate of detonation failure in an unconfined cylinder when the cylinder diameter is abruptly reduced. Good agreement is obtained between the measured and calculated detonation velocities and pressures for both experiments. This work was performed under the auspices of the U. S. Department of Energy by the Lawrence Livermore National Laboratory under Contract No. DE-AC52-07NA27344.

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