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Shock Initiation Experiments on the LLM-105 Explosive RX-55-AA at 25° C and 150° C with Ignition and Growth Modeling FRANK GARCIA, KEVIN S. VANDERSALL, CRAIG M. TARVER, PAUL A. URTIEW, Lawrence Livermore National Laboratory — Shock initiation experiments on the LLM-105 based explosive RX-55-AA (95% LLM-105, 5% Viton by weight) were performed at 25 °C and 150 °C to obtain in-situ pressure gauge data, run-distanceto-detonation thresholds, and Ignition and Growth modeling parameters. A 101 mm diameter propellant driven gas gun was utilized to initiate the explosive sample with manganin piezoresistive pressure gauge packages placed between sample slices. The run-distance-to-detonation points on the Pop-plot for these experiments showed agreement at 25 $^{\circ}$ C with previously published data on a similar LLM-105 based formulation RX-55-AB as well as a slight sensitivity increase at elevated temperature $(150 \degree C)$ as expected. Ignition and Growth modeling parameters were obtained with a good fit to the experimental data. This work was performed under the auspices of the U.S. Department of Energy by the University of California, Lawrence Livermore National Laboratory under Contract No. W-7405-Eng-48.

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