

Abstract Submitted
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Modeling of the Jack Rabbit Series of Experiments with a temperature-based reactive burn mode NICOLAS DESBIENS, REMY SORIN, VINCENT DUBOIS, CEA DAM DIF — A reactive burn model based on shocked explosive temperature has been presented at the previous joint AIRAPT/APS-SCCM in Seattle. It has been shown that the temperature of the unburnt shocked explosive is a good candidate to drive rate laws of decomposition. Such models are able to reproduce the evolution of the sensitivity of explosives with porosity. They also predict a drastic reduction of the reactivity in the case of multi-shock compression without any bolt-on desensitization model. In this work, we apply our temperature-based reactive burn model to the data of the Jack Rabbit Series of Experiments. Indeed, these experiments dedicated to the study of detonation wave corner turning and shock desensitization in LX-17 are harsh tests for reactive burn models. Details of our model together with preliminary results will be shown.

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