

Abstract Submitted
for the SHOCK19 Meeting of
The American Physical Society

AWSD calibration for the HMX based explosives PBX 9501 and LX-07 TARIQ ASLAM, MATTHEW PRICE, CHRISTOPHER TICKNOR, JEFFERY LEIDING, MARVIN ZOCHER, Los Alamos National Laboratory — A calibration of the AWSD reactive flow model, applied to the HMX based explosives PBX 9501 and LX-07, is presented. Requisite equation of state parameters for the high explosive reactants and products are based on a combination of experimental and theoretical data. The data needed to calibrate the reaction rate model, specifically shock to detonation transition and detonation propagation are presented along with model results. The length scales associated with reaction in the ZND-CJ limit as well as the sensitivity to initial temperature are discussed in the context of computational resolution requirements.

Tariq Aslam
Los Alamos National Laboratory

Date submitted: 27 Feb 2019

Electronic form version 1.4