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Dynamic Behaviors of Two PBX Explosives under Ramp Wave Loading GUIJI WANG, JINTAO CAI, Institute of Fluid Physics, YANHONG ZHAO, HAIFENG SONG, Beijing Institute of Applied Physics and Computation Mathematics — By means of the magnetic force produced by pulsed power generator CQ-1.5 and CQ-4, two PBX explosives are dynamically characterized under ramp wave loadings from several GPa to 10 GPa in experiments and calculations. The experimental and calculated results show that the PBX explosives exhibit visco-elastic or elastic effects, and the Mie-Grüneisen EOS can't well reflect the dynamic nature of PBX-1 and PBX-2 explosives at lower pressure of below 1 GPa. And it can describe their dynamic behaviors well above 1GPa. In this paper, the SG constitutive model is also used to describe this property of PBX9501, which shows good agreement with the experimental results and those of calculated from visco-elastic model by Baer.

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