Calibration of the equation of state for explosion products for explosive composition based on TATB in experiments on explosion of copper pipes with a diameter of 20 mm

Shirshova M O[@], Tiova V B, Svidinsky A V, Burenkov O M, Kiryukhina M N, Baranov V K, Duday P V, Irinichev D A and Fevralev A Yu

Federal State Unitary Enterprise "Russian Federal Nuclear Center—All-Russian Research Institute of Experimental Physics", Mira Avenue 37, Sarov, Nizhniy Novgorod Region 607188, Russia

[@] mirta120@yandex.ru

This paper presents the results of calibration of the new equation of state for explosion products for explosive composition based on TATB proposed by O.M. Burenkov. For this purpose, experimental data on radial and face shell throwing were used. A comparison of various equations of state of EP Experimental and calculated data obtained with regard to "ideal" detonation and with regard to the kinetics of MK detonation using the numerical LEGAC methodology are compared. A set of parameters of the new EOS of Burenkov O.M. for TATB-based explosives is presented. It is shown that the proposed EOS makes it possible to describe the experimental data at large degrees of expansion of EP.