

Study of detonation excitation and propagation processes in a TATB-based explosive composition in case of shock-wave initiation by low-intensity flat shock waves

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The paper presents the results of a study of shock-wave compression in a TATB-based explosive composition in case of shock-wave initiation by low-intensity flat shock waves with an amplitude 8 GPa. A 100 mm caliber powder loading unit was used to load the sample of explosive in the experiments. The manganin sensor method was used to record pressure profiles. The method of continuous non-disturbing microwave diagnostics was used to record the process of propagation of the initiating shock and detonation waves. the velocity of the free surface of the screen was determined using the PDV-method. Based on the obtained experimental information, the equation of state of a non-reacting explosive composition and the detonation kinetics model MK (Morozova-Karpenko) were validated.