

The experimental and computational analysis of the propagation of detonation in cylindrical samples of explosives based on TATB

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In this paper described the results of the research detonation wave's propagation in cylindrical samples of explosives based on TATB. The experimental data were obtained on the influence of the front curvature and the charge diameter on the detonation velocity in the VNIIEF and the Lavrent'ev Institute of Hydrodynamics. The critical diameter for an explosives based on TATB has been determined. The numerical simulation was carried out using the kinetics of detonation MK for an explosive composition based on TATB in the LEGAK method. Comparison of experimental and calculated data demonstrates the efficiency of the MK detonation kinetics model using the recommended parameters for explosives based on TATB. The theoretical and computational analysis of the propagation of detonation in cylindrical samples of explosives based on TATB makes it possible to evaluate in more detail the processes in the detonation wave and to supplement the information obtained in the experiments.