

# CAPABILITY OF SHORT-PULSE PROJECTILE SETUP OPERATING IN LOW-VELOCITY DETONATION MODE AT A MODEL COMPOSITE PROPELLANT

B. S. Ermolaev, A. V. Roman'kov, and A. A. Sulimov

N. N. Semenov Institute of Chemical Physics, Russian Academy of Sciences, 4 Kosygin Str., Moscow 119991, Russian Federation

**Abstract:** Capability of the laboratory short-pulse projectile setup, in which the propellant charge pressed from a mixture based on ammonium perchlorate burns down in the low-velocity detonation mode, has been studied. The short-pulse setup is equipped by instruments for recording the impulse of the trust, pressure in the chamber, and acceleration of the projectile. By analyzing the measurement results, effects of the charge mass and density, the ammonium perchlorate particle size and the additive of 20% RDX on the impulse of the trust, muzzle velocity, and the maximum pressure have been considered. Completeness of the chemical conversion of the propellant has been evaluated. Comparison with the same data obtained at a secondary explosive, TNT/RDX 30/70, has been discussed.

**Keywords:** low-velocity detonation; pulse projectile device; block charge; composite propellant

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## Contributors

**Ermolaev Boris S.** (b. 1940) — Candidate of Science in physics and mathematics, head of laboratory, N. N. Semenov Institute of Chemical Physics, Russian Academy of Sciences, 4 Kosygin Str., Moscow 119991, Russian Federation; boris.ermolaev@yahoo.com

**Roman'kov Alexander V.** (b. 1947) — Candidate of Science in physics and mathematics, senior research scientist, N. N. Semenov Institute of Chemical Physics, Russian Academy of Sciences, 4 Kosygin Str., Moscow 119991, Russian Federation; romankov@mail.ru

**Sulimov Alexey A.** (b. 1937) — Doctor of Science in physics and mathematics, professor, chief research scientist, N. N. Semenov Institute of Chemical Physics, Russian Academy of Sciences, 4 Kosygin Str., Moscow 119991, Russian Federation; aasul@chph.ras.ru