
Bicaliber ballistic gun mount with the deformable piston

© N.V. Bykov, V.V. Zelentsov, A.S. Karneychik

Bauman Moscow State Technical University, Moscow, 105005, Russia

The paper deals with the action of a ballistic gun facility with a squeeze-bore gun and deformable pistons. It is designed to produce a high projectile velocity. Thermo-gas-dynamic processes are described by quasi-one-dimensional gas dynamics equations which are numerically solved by a modified Godunov method applying a moving grid. The paper proves that more than 50 % speed increase can be achieved with this type of ballistic systems.

Keywords: interior ballistics, squeeze-bore guns, high-velocity projection, Godunov scheme.

Bykov N.V. (b. 1985) graduated from Bauman Moscow Higher School in 1985. Junior Researcher at Dorodnicyn Computing Center of the Russian Academy of Sciences, Assistant Lecturer of the Rocket and Pulse Systems Department of Bauman Moscow State Technical University. Author of more than 15 scientific publications in the field of gas dynamics and interior ballistics of guns. e-mail: bykovnv@br.ru

Zelentsov V.V. (b. 1937) graduated from Bauman Moscow Higher Technical School in 1961. Ph.D., Assoc. Professor, Head of the Rocket and Pulse System Department of Bauman Moscow State Technical University. Laureate of the RF President Prize in Education and RF Government Prize in Science and Technology. Author of more than 190 publications in the field of armaments, military equipment, thermodynamics and design of missile complexes.

Karneychik A.S. (b. 1948) graduated from the Kuibyshev Polytechnic Institute in 1972. Ph.D., Assoc. Professor of the Rocket and Pulse Systems Department of Bauman Moscow State Technical University. Author of more than 80 scientific publications in the field of armaments, special ballistic instruments and gun systems design. e-mail: karas-dmitrov@mail.ru
