
Possibilities of modeling body penetration in soils

© V.A. Veldanov, A.Yu. Dauriskikh, A.S. Karneychik, M.A. Maksimov

Bauman Moscow State Technical University, Moscow, 105005, Russia

The paper presents simulation criteria of penetration in soils and the influence of a scale factor on the penetration depth and g-loads. The results of experimental and numerical investigations of high-speed projectiles penetration in sand are provided. The influence of projectile stand-off pin shape on the interaction disposition with target was studied experimentally and by numerical simulations.

Keywords: *projectiles, target, sand, soil, penetration, ballistic setup, cavitator, cavity, high-velocity penetration.*

Veldanov V.A. (b. 1945) graduated from Bauman Moscow Higher Technical School in 1968. Ph.D., Assoc. Professor of the High-Precision Flying Vehicles Department of Bauman Moscow State Technical University. Author of more than 200 publications in the field of terminal ballistics and mechanics of deformable solid body. e-mail: vevladi@mail.ru

Dauriskikh A.Yu. (b. 1986) graduated from Bauman Moscow State Technical University in 2011. Post-graduate of High-Precision Flying Vehicles Department of Bauman Moscow State Technical University. Author of 15 publications in the field of terminal ballistics and mechanics of deformable solid body. e-mail: Anna.Dauriskikh@gmail.com

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.

Maksimov M.A. (b. 1955) graduated from Bauman Moscow Higher Technical School in 1978. Head of the sector of the Special Design and Technological Bureau of Applied Robotics. Author of more than 30 publications in the field of dynamics and mechanics of continua.
