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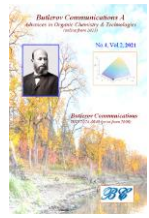

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Device for determining the pulse of explosive charge of explosive substance in the near zone

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Abstract

The modern development of weapons, military equipment, ammunition, high-energy condensed systems and products based on them, and above all their high-precision samples, requires the study of the parameters of the near zone of the explosion. This is necessary both to increase the effectiveness of ammunition and to develop methods of protection against them. The need to obtain relevant knowledge has made the task of researching the parameters of the explosion of full-scale charges of explosives (explosives)/ ammunition with TNT equivalent of more than 10 kg and their registration in the near zone extremely urgent, when the distance from the center of the explosion to the measurement site does not exceed one dozen calibers. Ballistic pendulums, which have been used for many decades for these purposes, are a reliable and most effective means of determining the performance of various high-energy condensed systems (gunpowder, explosives, pyrotechnic compositions, solid rocket propellants) and products based on them in the near zone turn out to be ineffective. That is why, in this article, a promising development of a device for determining the impact of an explosion pulse of explosive charges of different geometric shapes without shells or artillery shells in the near zone is considered. A spherical projectile is placed when determining the impulse of a charge explosion on a horizontal shelf, due to the presence of an opening in the shelf, communicating with a channel in the rack, connected in turn by a pneumatic line to a high pressure source, allows immediately before detonation to bring the projectile body into a levitating state with an air stream. shelves. When the charge is detonated, the projectile levitating above the shelf at a relative height is "knocked out" of

the gas jet under the influence of the damaging factors of the explosion, acquires a horizontal velocity and leaves the shelf without friction.

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