Assessing the possibility of increasing the parameters of an underwater explosion by splitting the charge into separate parts

© S.I. Klimachkov, V.N. Okhitin

Bauman Moscow State Technical University, Moscow, 105005, Russia

We numerically investigated the simultaneous explosion in the water of three and five spherical charges located in line with a spacing of 6 and 10 radii of the same charges. Comparison of the parameters of the explosion of a single and three and five charges of the same mass showed that in the plane of symmetry of the charges location there is an increase of the maximum pressure and the specific impulse of the aqueous shock wave up to 80 %. As the distance between the charges is increasing, the gain on pressure decreases, and it increases on the specific impulse.

Keywords: explosion, the maximum pressure, spherical charge, the shock wave, the specific impulse of pressure, numerical simulation, pressure diagrams.

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Klimachkov S.I. (b. 1955) graduated from Bauman Moscow Higher Technical School in 1982. Researcher at the Special Machinery Research Institute of the Bauman Moscow State Technical University. The author of 30 scientific works in the field of physics of combustion and explosion. e-mail: klimu1912@hotmail.com

Okhitin V.N. (b. 1943) graduated from Bauman Moscow Higher Technical School in 1966. Dr. Sci. (Engineering), professor of the Department of High-Precision Airborne Devices at the Bauman Moscow State Technical University. The author of 350 scientific works in the field of physics of combustion and explosion. e-mail: okhitin@sm.bmstu.ru