
The studies of solid fuel grain stability under the impulse input

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The paper deals with experimental studies of simulated projectiles with solid fuel grains under an artillery impulse input. In the research the projectile velocities ranged from 0.5 to 3 of Mach numbers; charges of different fuel compositions and geometric configuration were used. It was found out that under certain load levels some original fuel compositions do not withstand loads and disintegrate. According to research results some recommendations on the applicability of the considered structures were made and some demands to correct mechanical characteristic of new solid fuels were justified.

Keywords: *experimental research, rocket-assisted projectile, simulated projectile, solid fuel, mechanical characteristics, impulse input, load levels.*

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