

NUMERICAL SIMULATIONS OF ASPECTS OF THE EXPLOSIVE-PENETRATION EFFECT OF KINETIC INDENTORS CONTAINING ACTIVE CONTENT

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Abstract: On the basis of numerical simulation results, a comparative analysis of the parameters of armor-piercing effect of solid kinetic impactors 30 mm in diameter and models with the same weight and size, but containing active content that provides the functioning of the models in the so-called explosive-penetration action. According to the numerical simulation results, the conclusions are made on the ambiguous effect of active combined content (reactive material + high explosive (HE)), including a filler with a low density (HE), on the parameters of the armour-piercing process. The range of values of the relative time delay of initiation of explosive transformation in the content providing a positive penetration effect is defined.

Keywords: active reactive materials; explosive-penetration effect; penetration into firm targets; high-speed interaction; numerical simulations

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