KEAPER SUBPROJECTILE TESTING

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ABSTRACT:

This presentation will discuss my work with the Institute for Advanced Technology in Austin, Texas. My work was based on testing different single sub-projectiles at different velocities on a .50 caliber range, simulating as if they would be deployed from the KEAPER (Kinetic Energy Artillery with Precision and Extended Range) artillery round concept. Specifically it analyzes the effects of projectiles shot into oblique 7039 aluminum targets (simulating armor plates) and the different factors that allow the sub-projectiles to perforate the metal targets.

The study also explains the different results obtained, testing techniques and measurements used on testing the sub-projectiles. The presentation has plots and pictures that explain in detail how accurate the experiments were relating velocity, total yaw and the level of perforation of the projectile. Due to the fact of obliquity of the targets, there are some very interesting results that are shown on the presentation.

These studies are very relevant for the army because the KEAPER round and electromagnetic rocket launching systems could be used in the future as a replacement for the modern conventional weapon systems because of their improved lethality, precision and cheaper cost.

KEYWORDS: sub-projectiles, KEAPER, electromagnetic rocket launching system

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