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一维弹道修正弹的气动特性与修正量研究(PDF)

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Title: The Study of One-dimension Trajectory Correction Projectile Aerodynamic Characteristic and Correction

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关键词: 弹道修正; 阻力环; 安装位置; 射程修正量

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摘要: 为提高弹箭射击密集度,采用增阻环进行纵向距离修正。用Fluent软件对3种头部形状的榴弹进行仿真,结果与风洞实验对比,两者得到的阻力系数变化规律相同,验证了模型及模拟软件的正确性和可靠性。进一步仿真分析阻力环在不同安装位置对空气动力特性的影响以获得对应的阻力系数。建立一维弹道修正弹数学模型,用VC++6.0编写弹道程序,并对阻力环机构在弹道不同位置作用时对应的射程修正量进行计算与分析。

Abstract: To improve the concentration of projectiles,drag brake was used to realize the longitudinal range correction. Fluent was applied to analyze three grenades with three different head shapes. The simulation results were contrasted with wind tunnel experimental,and showed that the rule of drag coefficient was identical, the consistency was got and the legitimacy of the model

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and FLUENT software were checked by the simulation. Based on it, in order to get the corresponding resistance coefficient, drag brake of different setting position has influence in aerodynamic characteristics. The mathematical model of one dimensional trajectory of correctional projectile was built and ballistics calculation program was compiled by VC++6.0. The corresponding amount range correction was calculated and analyzed by producing ballistic program when drag brake acting in different