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## 头部偏转火箭弹气动特性及弹道规律研究(PDF)

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Title: Aerodynamic Characteristicsand Trajectory of Rocket with Deflected Head

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摘要: 为了得到头部偏转对落点偏离瞄准点距离的影响规律,进行了头部偏转火箭弹的气动和弹道规律研究。首先以某单兵火箭弹为对象进行了射击试验。采用数值仿真方法对头部偏转火箭弹气动特性进行了相关数值仿真,计算结果与试验数据吻合较好。以此为基础进行了进一步数值仿真计算。结果表明头部偏转方向对偏离方向具有决定性作用,在射击距离200 m时射程修正量为0.43 m;头部偏转角度和射程相同时,飞行速度超过某个值后,偏离距离基本不再改变。

Abstract: In order to obtain the influence law of head deflection on distance between aiming point and impact point, the law of aerodynamic characteristics and trajectory was studied based on individual rocket. Experiment of firing individual rocket was made. Numerical simulation about aerodynamic characteristics of the rocket was taken, the calculating results agree well with experimental ones. Then based on it, further numerical simulation was made, the results shows that the direction of deflected angle determines the direction of impact point, the correction reaches 0.43 m at the range of 200 m. With same head deflection angle and range, off-range distance no longer varies when flight speed exceeds certain velocity.

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