

[1]王 麟,范文涛,高 原.偏转弹头导弹气动特性研究[J].弹箭与制导学报,2014,2:123-126.

WANG Lin,FAN Wentao,GAO Yuan.Research on Aerodynamic Characteristics of Missile with Deflectable Nose Control[J].,2014,2:123-126.

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《弹箭与制导学报》[ISSN:1673-9728/CN:61-1234/TJ] 期数: 2014年第2期 页码: 123-126 栏目: 弹道与气动力技术 出版日期: 2014-05-12

Title: Research on Aerodynamic Characteristics of Missile with Deflectable Nose Control

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关键词: [偏转弹头控制](#); [鸭舵控制](#); [气动特性](#)

Keywords: [deflectable nose control](#); [canard control](#); [aerodynamic characteristics](#)

分类号: TJ760.11

DOI: -

文献标识码: A

摘要: 利用计算流体力学(CFD)方法对偏转弹头控制导弹和鸭舵控制导弹在不同马赫数、攻角和控制面偏角等状态下的流场进行数值模拟,并对两者的阻力特性、升力特性和俯仰力矩特性等气动特性进行了比较分析。得出偏转弹头控制具有气动性能好、控制效率高、机动性强等特点,其控制效率随着马赫数的增加而增加,是导弹高速飞行过程中快速响应控制的理想方式。

Abstract: A computational investigation has been completed at Mach number of 2, 3, and 4 to compare the aerodynamic characteristics and pitch control effectiveness of missile with deflectable nose and canard controls. The computation results indicate that compared with canard control, deflectable nose control has strong points in aerodynamics, control effectiveness and maneuverability, the control efficiency increases as the Mach number increases. Thus deflectable nose control is a perfect control method of hypersonic missile.

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备注/Memo: 收稿日期: 2013-06-20

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更新日期/Last Update: 2014-05-22