点击复制

固定翼二维弹道修正弹气动特性分析(PDF)

❖ 工具/TOOLS

引用本文的文章/References

下载 PDF/Download PDF(1498KB)

立即打印本文/Print Now

推荐给朋友/Recommend

Title:	Aerodynamic Characteristic Analysison Two-dimensional Trajectory Corrector Shell with Fixed-wing
作者：	郝永平; 孟庆宇; 张嘉易
	沈阳理工大学CAD/CAM技术研究与开发中心,沈阳 110159
Author(s):	HAO Yongping; MENG Qingyu; ZHANG Jiayi
	Research and Development Center of CAD/CAM, Shenyang Ligong University, Shenyang 110159,China

关键词：	弹道修正; 固定式; 滑移网格; 气动力
Keywords:	trajectory correction; fixed; slipping grid; aerodynamic
分类号：	TJ410
DOI:	-
文献标识码：	A

摘要： 在二维弹道修正方法的基础上,提出固定翼式二维修正弹的修正模型。针对大口径炮弹的飞行情况,设计了修正弹的物理模型。对炮弹及修正部整体三维建模,计算域六面体机构性网格离散。运用CFD流体计算软件,采用滑移网格计算技术对修正部及整体进行了计算分析,得出了修正部旋转舵力矩及控制舵力随马赫数的变化规律,为以后的固定翼修正方式的研究提供了气动依据。

Abstract: A model of two-dimensional trajectory corrector shell with fixed-wing was proposed based on two-dimensional trajectory corrector method analysis. In view of large-caliber shell's flight situation, the wing shape of two-dimensional trajectory corrector shell was designed. Three-dimensional modeling was conducted for shell and the corrected part. The computation territory hexahedron was separated by structure grid. The CFD hydraulic design software and the slipping grid computation technology were used to compute and analyze the corrected and the whole. The change law of the corrected part's revolving control surface moment and the control rudder strength with the Mach was got, providing aerodynamic reference for future research of fixed wing correction.

参考文献/REFERENCES

[1] 姚文进,王晓鸣,高旭东. 脉冲力作用下弹道修正弹飞行稳定性研究[J]. 弹箭与制导学报,2006,26(1):248-250.

[2] 李虎全,李世义. 弹道修正引信用电动舵机设计与仿真[J].微计算机信息,2009,257:7-9.

[3] 邱荣剑,陶杰武,王明亮. 弹道修正弹综述[J]. 国防技术基础,2009(8):45-48.

[4] 霍鹏飞,杨小会,刘创. 基于减旋的弹道横偏修正弹方法反求分析[J]. 探测与控制学报,2008,30(6):12-20.

[5] 沈仲书,刘亚飞.弹丸空气动力学[M].北京:国防工业出版社,1984.

[6] 江帆,黄鹏.Fluent高级应用与实例分析[M].北京:清华大学出版社,2008.