

[1]李友年,陈星阳.捷联惯导寻的导弹自动驾驶仪特性对气动力设计的约束[J].弹箭与制导学报,2012,3:63-66.

LI Younian, CHEN Xingyang. The Constrain for Aerodynamic Design by Homing Missile Autopilot with Strap-down Inertial Navigation System[J]., 2012, 3: 63-66.

点击复制

捷联惯导寻的导弹自动驾驶仪特性对气动力设计的

《弹箭与制导学报》 [ISSN:1673-9728/CN:61-1234/TJ] 期数: 2012年第3期 页码: 63-66 栏目: 导弹与制导技术 出版日期: 2012-06-25

Title: The Constrain for Aerodynamic Design by Homing Missile Autopilot with Strap-down Inertial Navigation System

作者: 李友年; 陈星阳
中国空空导弹研究院, 河南洛阳 471009

Author(s): LI Younian; CHEN Xingyang
China Airborne Missile Academy, Henan Luoyang 471009, China

关键词: 捷联惯导; 弹体气动力特性; 自动驾驶仪

Keywords: strap-down inertial navigation; airframe aerodynamic characteristics; autopilot

分类号: TJ765.3; V249.322

DOI: -

文献标识码: A

摘要: 对于寻的制导导弹来说,弹体气动力特性是整个闭环控制系统的一部分。而为了使所设计的自动驾驶仪性能满足要求,必须对弹体气动力特性进行约束。文中首先分析了在无捷联惯导的情况下,导弹自动驾驶仪设计对弹体气动力特性的约束条件;进而讨论了在有捷联惯导的情况下,导弹自动驾驶仪设计对弹体气动力特性约束情况,并通过仿真验证了这种约束的合理性。

Abstract: For homing guided missile, the airframe aerodynamic characteristics become a part of an overall close loop control system. In order to satisfy the need of performance in designing autopilot, the airframe aerodynamic characteristics must be constrained. In this paper, the airframe aerodynamic characteristic constraint was analyzed for missile autopilot design without strap-down inertial navigation. According to this, how the airframe aerodynamic characteristics were constrained with strap-down inertial navigation was discussed. At last, the rationality of the constraint was verified by simulation.

参考文献/REFERENCES

- [1] F William Nesline, Mark L Nesline. How autopilot requirements constrain the aerodynamic design of homing missile [C]// American Control Conference, 1984 Vol. 2: 716-730.
- [2] Nesline F William, Nabbefeld Norman C. Design of digital autopilots for homing missiles [C]// Proceedings of AGARD Flight Mechanics Panel Symposium, 1979 Vol. 29: 1-14.
- [3] Garnell P, East D J. Guided weapon control systems [M]. Pergamon Press, 1977.
- [4] Nesline F W, Zarchan P. Miss distance dynamics in homing missiles [C]// AIAA Guidance and Control Meeting, Seattle, Washington 1984.

❖ [导航/NAVIGATE](#)

[本期目录/Table of Contents](#)

[下一篇/Next Article](#)

[上一篇/Previous Article](#)

❖ [工具/TOOLS](#)

[引用本文的文章/References](#)

[下载 PDF/Download PDF\(1667KB\)](#)

[立即打印本文/Print Now](#)

[推荐给朋友/Recommend](#)

❖ [统计/STATISTICS](#)

[摘要浏览/Viewed](#)

[全文下载/Downloads](#) 155

[评论/Comments](#) 60

[RSS](#) [XML](#)

备注/Memo: 收稿日期:2011-07-27 作者简介:李友年(1964-),男,山东五莲人,研究员,研究方向:飞行器制导控制系统。

更新日期/Last Update: 2012-06-25