[1]齐竹昌,刘 莉,龙 腾,等.基于Vega Prime的弹道视景准实时仿真研究[J].弹箭与制导学报,2013,01:145-148.

QI Zhuchang,LIU Li,LONG Teng,et al.The Research of Trajectory Scene Quasi-real-time Simulation Based on Vega Prime [J].,2013,01:145-148.

基于Vega Prime的弹道视景准实时仿真研究(PDF)

《弹箭与制导学报》[ISSN:1673-9728/CN:61-1234/TJ] 期数: 2013年01期 页码: 145-148 栏目: 弹道与气动力技术 出版日期: 2013-02-25

Title: The Research of Trajectory Scene Quasi-real-time Simulation Based on Vega Prime

作者: 齐竹昌; 刘 莉; 龙 腾; 邢 超

北京理工大学宇航学院,北京 100081

Author(s): QI Zhuchang; LIU Li; LONG Teng; XING Chao

School of Aerospace Engineering,Beijing Institute of Technology,Beijing 100081,China

关键词: 弹道仿真; 视景仿真; 准实时; 多媒体定时器; Vega Prime

Keywords: trajectory simulation; scene simulation; quasi-real-time; multi-media timer; Vega Prime

分类号: TJ013

DOI: -

文献标识码: A

摘要: 为实现弹道视景准实时仿真,建立了导弹弹道仿真模型,使用Multigen Creator创建了导弹三维模型及地形场景模型。基于Vega Prime分析了弹道视景准实时仿真流程及其关键技术,在Windows平台下通过定制高精度多媒体定时器实现了仿真的准实时性,以内存映射文件技术实现了弹道仿真程序与视景仿真程序跨进程的数据交互。在.NET框架下选用C++调用Vega Prime API函数编程完成了弹道视景准实时仿真程序的开发,验证了该方法的可用性。通过弹道视景准实时仿真,设计人员可以直观的观察和分析导弹飞行过

Abstract: To achieve the trajectory scene quasi-real-time simulation, the trajectory model was created, and the missile 3D model and landform model were created using Multigen Creator software. The process and key technologies of the trajectory scene quasi-real-time simulation were analyzed based on Vega Prime. To achieve the quasi-real-time simulation, the high precision multi-media timer was used. The data cross-process exchange between trajectory simulation and scene simulation wais implemented using memory mapping file technology. The method's availability was verified by the trajectory scene quasi-real-time simulation program developed through using C++ to call Vega Prime API function in.NET frame. The designer can observe and analyze missile flight status through the trajectory scene simulation, and provide the reference for the trajectory analysis and design.

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(790KB)

立即打印本文/Print Now

参考文献/REFERENCES

[1] 凌锋. 飞行视景仿真系统研究与开发[D].西安:西北工业大学, 2003.

[2] 苏森煜，张晓东，娄术根,等. 基于Vega的导弹飞行视景仿真[J]. 沈阳航空工业学院学报，2010,27(2): 20-23.
[3] 唐胜景，汪群山，王宪宗，等. 基于Visual C++和Vega的导弹虚拟飞行仿真系统[J]. 北京理工大学学报，2007，27(5): 413-416.
[4] The Multigen Creator Desktop Tutor[M]. Multigen Paradigm Inc, 2008.
[5] Lynx Prime user's guide [M]. Multigen Paradingm Inc, 2008.
[6] 常发亮，刘静. 多线程下多媒体定时器在快速数据采集中的应用[J]. 计算机应用，2003，23(S1): 177-178.
[7] 孙文庆，刘秉权，肖镜辉. 基于内存映射文件的数据共享技术研究与应用[J]. 微计算机应用，2005,26(2): 192-194.