博士论坛

基于分形的多分辨率三维海浪实时仿真

彭耿, 张立民, 艾祖亮, 邓向阳

山东烟台海军航空工程学院电子信息工程系405教研室（暂时）

摘要　　海浪的实时仿真与传统的计算机真实感图形的主要区别是，它将绘制的实时性和真实感同时作为衡量系统有效性的重要指标。论文跟踪了国内外海浪仿真前沿，结合具体的工程需求和软硬件环境，通过建立数学模型，基于海浪的分形特性，提出并实现了满足模拟飞行训练需要的多分辨率三维海浪实时仿真。在编程中，对实时性进行了研究并提出了相应的对策，较好地满足了实时性要求。文中提出的海浪实时仿真方法和关键技术，既可为模拟飞行训练提供一个虚拟海战场环境，又可为其它自然景物仿真提供经验和方法。
关键词　　计算机应用,海浪仿真,分形,实时
分类号

Real-time Simulation of Three-dimensional Multi-resolution Ocean Wave Based on Fractal

’’’

山东烟台海军航空工程学院电子信息工程系405教研室（暂时）

Abstract

Distinguished with traditional computer realistic graphics, qualities of real time and fidelity are regarded as significant indexes of weighing system validity for real-time simulation of ocean wave simultaneously. It is shown that fractal is regarded as one character of ocean wave by studying plenty of papers. Tracking advancing front of ocean wave simulation home and abroad, associating with concrete engineering requirements and conditions of software and hardware, an algorithm of ocean wave simulation based on fractal is introduced, which satisfies the needs of flight training simulation. In the course of programming, the character of real time is researched and corresponding simplified means are presented. The method and key technologies of ocean wave real-time simulation advanced in this article can not only offer a virtual ocean battlefield environment for flight training simulation, but also present experiences and ways for other natural scenery simulation.

Key words　　computer application　ocean wave simulation　fractal　real time

DOI:

通讯作者　彭耿　彭耿 hjhy-penggeng@163.com

扩 展 功 能

本文信息

- Supporting info
- PDF(1152KB)
- [HTML全文](0KB)
- 参考文献

服务与反馈

- 把本文推荐给朋友
- 加入我的书架
- 加入引用管理器
- 复制索引
- Email Alert
- 文章反馈
- 浏览反馈信息

相关信息

- 本刊中 包含"计算机应用,海浪仿真,分形,实时"的 相关文章

本文作者相关文章

- 彭耿
- 张立民
- 艾祖亮
- 邓向阳