简报

| 最新目录 | 下期目录 | 过刊浏览 | 高级检索

<< ◀◀ 前一篇 | 后一篇 ▶▶ >>

一种基于嵌入式环境的海量DEM数据快速绘制算法

王金岩[1,2]，何亦征[2]，谢剑斌[3]，刘通[3]，庄钊文[3]，敬忠良[4]

1. 上海交通大学 电子信息与电气工程学院;
2. 中国航空无线电电子研究所;
3. 国防科学技术大学 电子科学与工程学院;
4. 上海交通大学 空天科学技术研究院

Rapid Protracting Arithmetic about Large Scale DEM Data Based on Embedded Environment

Wang Jinyan[1,2], He Yizheng[2], Xie Jianbin[3], Liu Tong[3], Zhuang Zhaowen[3], Jing Zhongliang[4]

1. School of Electronics and Information Technology, Shanghai Jiaotong University;
2. China National Aeronautical Electronic Radio Research Institute ;
3. .School of Electronics Engineering, National University of Defense Technology;
4. Institute of Aerospace Science and Technology, Shanghai Jiaotong University

| 摘要 | 参考文献 | 相关文章 |

Download: PDF (1443KB)   HTML 0KB   Export: BibTeX or EndNote (RIS)   Supporting Info

摘要

采用海量数字高程模型(DEM)数据的地景模型在军事与民用领域具有非常重要的作用，其快速绘制问题是三维真实地形信息可视化的一个关键问题。提出了动态数据子块的概念，通过经纬度和飞行参数索引快速实现数据子块的装载，再通过有效数据组织和改进四叉树方法实现地形快速绘制。新算法在嵌入式环境中实现了海量DEM数据的实时绘制，而且画面流畅，无滞后现象。

关键词： 嵌入式环境 数字高程模型 装载 地形显示 计算机图形

Abstract：

Terrain models are widely used in the fields of aerospace exploration as well as civil and military aviation, such as war field simulation, flight visualization, characteristics matching, special effects in movies and televisions, etc. This article presents a new concept called the sub dataset and proposes an algorithm to realize its data loading rapidly by means of the indexes of flight parameters and longitude and latitude information. By means of this method large scale digital elevation model (DEM) data are loaded and rendered real-time, smoothly and rapidly. Now the method has been used on embedded platform and accomplished some flight emulation experiments.

Keywords： embedded environment digital elevation model loading terrain visualization computer graphics

Service
▸ 把本文推荐给朋友
▸ 加入我的书架
▸ 加入引用管理器
▸ Email Alert
▸ RSS

作者相关文章
▸ 王金岩
▸ 何亦征
▸ 谢剑斌
▸ 刘通
▸ 庄钊文
▸ 敬忠良

引用本文：