

论文

宽带卫星Mesh网多址接入信道预测分配方案研究

李斗, 王峰, 姬冰辉, 项海格

北京大学信息科学技术学院电子学系 北京 100871

收稿日期 2006-10-19 修回日期 2007-4-19 网络版发布日期 2008-6-10 接受日期

摘要

该文针对具有网状(Mesh)拓扑结构的宽带卫星通信网,研究了分布式控制多址接入信道分配策略。提出了一种基于自相似业务流量混沌预测的混合动态分配方案。利用OPNET软件建立了仿真系统,研究比较了信道分配周期、信道负载以及业务流自相似程度对几种方案性能的影响。仿真结果表明,对于采用地球同步轨道(GEO)卫星、低轨(LEO)和中轨(MEO)卫星星座的宽带卫星Mesh网,所提出方案在高信道负载条件下都具有明显的优势。

关键词 [宽带卫星Mesh网](#) [动态分配多址接入](#) [分布式控制](#) [自相似业务流](#) [混沌预测](#)

分类号 [TN927+.2](#)

The Predictive Multi-access Channel Allocation Scheme in Broadband Satellite Mesh Network

Li Dou, Wang Feng, Ji Bing-hui, Xiang Hai-ge

School of Electronics Engineering and Computer Science, Peking University, Beijing 100871, China

Abstract

This paper investigates the distributed allocation control of multi-access channel in broadband satellite mesh network. A novel combined Dynamic Allocation Multi-Access (DAMA) scheme is proposed, which is based on the chaotic prediction of self-similar traffic. The OPNET simulation system is built for comparing the performance of several schemes under different channel allocation cycle and channel load. The influence of traffic with different degree of self-similarity is also studied. Simulation results indicate that the novel scheme has better performance under high channel load in broadband satellite Mesh network with GEO, LEO and MEO satellite constellations.

Key words [Broadband satellite mesh network](#) [DAMA](#) [Distributed control](#) [Self-similar traffic](#) [Chaotic prediction](#)

DOI:

通讯作者

作者个人主页 李斗; 王峰; 姬冰辉; 项海格

扩展功能

本文信息

▶ [Supporting info](#)

▶ [PDF\(341KB\)](#)

▶ [\[HTML全文\]\(OKB\)](#)

▶ [参考文献\[PDF\]](#)

▶ [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“宽带卫星Mesh网”的相关文章](#)

▶ 本文作者相关文章

- [李斗](#)
- [王峰](#)
- [姬冰辉](#)
- [项海格](#)