

SPACE COMMUNICATIONS AND NAVIGATION SYMPOSIUM (B2)
Fixed and Broadcast Communications (4)

Author: Dr. Ying Tao

China Academy of Space Technology (CAST), China, tao.ying@126.com

Mr. Ren Junqiang

China Academy of Space Technology (CAST), China, renjq2002@163.com

Mrs. Zhou Na

China, renjq2002@163.com

Dr. qiang lv

China Academy of Space Technology (CAST), China, xiaoqiang151@163.com

Mr. Naijin Liu

China Academy of Space Technology (CAST), China, naiking@gmail.com

Dr. Zongchuang Liang

China Academy of Space Technology (CAST), China, Richard.liang@263.net

Mr. wangmin@cast.cn Wang

China Academy of Space Technology (CAST), China, wangmin@cast.cn

Mrs. Xuan Feng

China, tao.ying@126.com

RESEARCH ON THE SYSTEM PERFORMANCE OF BROADBAND MULTIMEDIA SATELLITE
COMMUNICATION SYSTEM ADOPTING DIFFERENT ON-BOARD SWITCHING

Abstract

Broadband multimedia satellite communication system is a kind of satellite communication system which can provide broadband services such as multimedia and Internet access through the broadband communication satellite for users. Till now, this kind of system has grown into a vital way to realize global seamless personal communication and Internet access. The on-board switching, such as ATM switching and IP switching, helps to realize the flexible networking, decrease the communication delay and promote the link transmission quality, which is now the hot spot of both system engineering construction and theory research. In this paper, the simulation model of broadband multimedia satellite communication system is constructed and then the performance and the applicability of both ATM switching and IP switching are compared and analyzed from the point of protocol stability, system capacity, service transmission delay, cache queue length and system overhead, which can act as the theoretical base of the broadband multimedia satellite communication system design and actualization.