

SPACE COMMUNICATIONS AND NAVIGATION SYMPOSIUM (B2)  
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RESEARCH OF CHANNEL ALLOCATION STRATEGIES ON MULTIMEDIA COMMUNICATION  
SATELLITE SYSTEM

**Abstract**

The frequency resource which is assigned by ITU for satellite communication service is very limited. One of the main work in satellite communication system design is to make use of limited frequency resource effectively. Large number of theoretical calculations and simulation results showed that an effective channel allocation strategy on given QOS can improve the frequency utilization efficiency and enhance the system capacity. So the research of channel allocation strategy is very important in satellite communication system design. Future satellite communication system would support multimedia traffic, for example, voice, video, data, image, text and so on. Different types of traffic need different QOS. For example the demands of time delay, error bit rate and data rate are different. To satisfy the demand for QOS of different traffic, an appropriate channel allocation strategy should be selected. Traditional channel allocation strategy of single voice traffic which not consider the traffic types and QOS, would reduce the frequency utilization efficiency and the system capacity. In this paper, we analyzed traffic proportion relation, bandwidth demand of different type traffic, channel sharing rule, priority of different traffic call etc. in the multimedia satellite system which support multi-traffic. We also studied the channel allocation strategy in multi-traffic system. The relevant simulation result of channel allocation strategy were provided in the end.