

SPACE COMMUNICATIONS AND NAVIGATION SYMPOSIUM (B2)  
Fixed and Broadcast Communications (1)

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THE STUDY ON SPACE COMMUNICATION AND RELAY SATELLITE NETWORK

**Abstract**

Space based communication network is a product of the combination of modern aerospace technology and communication technology, which makes full use of satellite coverage range and its flexible and efficient networking. Through the satellite nodes, the ground and the airborne nodes, a network could be built efficiently and the seamless communication could be realized in the space. In this paper, the concept of space communication is specialized with the application background. As well known, the communication occupies a dominant position in the space exploration. By analyzing the characteristics and technical difficulties of space communication, a novel two-way communication mechanism based on the S and Ka band is proposed. Both simulation and flight results prove the communication link stability and effectiveness. Furthermore, the framework of a space relay network is designed and the key technologies including network architecture, mobile access and integrated management are discussed.