

SPACE COMMUNICATIONS AND NAVIGATION SYMPOSIUM (B2)
Fixed and Broadcast Communications (5)

Author: Ms. Chen Wang

Institute of Communication Satellite, China Academy of Space Technology, China, 7224483wang@163.com

RESEARCH ON OFDM TECHNOLOGY IN SATELLITE COMMUNICATION SYSTEM

Abstract

Orthogonal Frequency Division Multiplexing (OFDM) technology realizes multi-carrier modulation using orthogonal sub-carriers, which features high flexibility, strong anti-fading capability and high utilization of frequency resource. Considering the GEO orbit location and frequency resource become rarer and rarer, OFDM technology gives a solution, which can significantly improve the system capability. Whether OFDM technology is suitable for satellite communication system or not, how to decrease the Peak-to-Average Power Ratio (PAPR) of OFDM technology is the crucial point. This paper did the research for improving the PAPR of OFDM technology in satellite communication system. Different solutions and corresponding performance were given based on current HPA performance in satellite. The requirement for HPA in satellite was given for the application of OFDM.