Paper ID: 89039
student

IAF SPACE COMMUNICATIONS AND NAVIGATION SYMPOSIUM (B2)
Interactive Presentations - IAF SPACE COMMUNICATIONS AND NAVIGATION SYMPOSIUM (IP)

Author: Mr. Mazen Abunajem
Jordan

Ms. Renad Abuzetun
Jordan
Ms. Eman AbuZeitoun
Jordan University of Science & Technology, Jordan
Ms. Lujain Abuzeitoun
Jordan

ENHANCING SATELLITE MULTIPLE ACCESS TECHNIQUES WITH CDMA-TDM INTEGRATION

Abstract

This abstract presents a novel approach to satellite multiple access techniques by integrating Code-Division Multiple Access (CDMA) and Time-Division Multiplexing (TDM). The proposed method, termed CDMA-TDM, capitalizes on the advantages of both CDMA and TDM to optimize resource utilization and minimize interference in satellite communication systems.

CDMA-TDM leverages the full-time, full-bandwidth benefits of CDMA by dividing each code into time slots. This innovative approach allows users sharing the same code to occupy distinct time slots, effectively reducing interference and enhancing system efficiency. By combining the unique characteristics of CDMA and TDM, CDMA-TDM aims to provide users with full-time access while mitigating potential interference issues.

The integration of CDMA and TDM in satellite multiple access techniques represents a significant advancement in satellite communication technology. Through synergistic utilization of these techniques, CDMA-TDM offers enhanced system performance and improved user experience in satellite communication systems. This abstract introduces the CDMA-TDM method as a promising solution to address the challenges of interference and resource allocation in satellite communication networks.