66th International Astronautical Congress 2015

SPACE COMMUNICATIONS AND NAVIGATION SYMPOSIUM (B2)
Near-Earth and Interplanetary Communications (4)

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ANTI-BURST TECHNIQUE BASED ON ADAPTIVE CODE RATE ADJUST OF SATELLITE-TO-GROUND LASER COMMUNICATION

Abstract

In the process of satellite-to-ground opticalcommunications, the damage of optical coherence field due to atmosphericturbulence can directly cause sudden, clustered communication error, thus affecting thecommunication performance in Intensity Modulation/Direct Detection (IM/DD)based high speed satellite-to-ground downlink optical communication system. In this paper, a kind of rate adaptive NB-LDPC code with was proposedIn the case of fixed decision threshold,a mutual feedback adaptiveanti-burst transmission model was established to address the problems of anti-bursts and shortenthe transmission delayby using the maximum fading length of the received signal ina certain interval as a parameter of adaptive rate adjustment and interleaving.The method can get the better anti-burst performance and significantly shorten the information transmission delayintroduced by the interleaver when comparing with the fixed modulation coding instructions.