

SPACE COMMUNICATIONS AND NAVIGATION SYMPOSIUM (B2)
Advanced Technologies (2)

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A POWER AND SPECTRAL EFFICIENT MODULATION ROBUST TO PHASE NOISE

Abstract

this paper proposes a differential continue phase modulation, which is robust to phase noise with high power and spectral efficiency. In modulation, a set of baseband signal is first designed to be quasi constant envelope with continue phase shift over the symbol duration. Modulation is realized by choosing a signal from the baseband signal set based on input bits and phase state. Receiver only needs to calculate the phase shift cumulant of signal over the symbol duration. Thereby, the performance of demodulation is immune to the phase noise caused by local oscillators, relatively large Doppler spread and so on.