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Author: Ms. Xu Zhuoyi
China Academy of Space Technology (CAST), China, xuzhuoyi1987@hotmail.com

AN INTERFERENCE DETECTION ALGORITHM BASED ON AR MODEL FOR THE FREQUENCY-HOPPING SYSTEM

Abstract

Frequency-hopping system has been widely used in space communication system for the advantages of good performance of anti-jamming, anti-fading and confidentiality. Interference detection algorithm of frequency-hopping system is a key aspect of space channel quality assessment and an important technique in adaptive frequency-hopping system. Based on the broadband receiver model, this paper analysis and compares a variety of spectrum estimation algorithms, and then introduces a frequency-hopping interference detection theory uses the AR model spectrum estimation and shows the algorithm principles and threshold calculation in detailed. The simulation result shows that for the multi-tone interference and partial interference in both radio silence and communication process the algorithm has a good performance in accuracy.