

OQAM/OFDM信号二阶循环平稳性分析

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Second-order Cyclostationarity Analysis of OQAM/OFDM Signals

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摘要

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摘要 OQAM/OFDM是一种基于正交滤波器组的多载波调制信号,其特殊的生成机制决定了循环谱结构的复杂性。该文从OQAM/OFDM系统的连续时间基带模型出发,证明了OQAM信号具有的二阶循环平稳性,推导了谱相关函数表达式,并分析了OQAM信号的各种谱相关特征,以及多径衰落信道对其的影响。仿真实验表明了理论分析的正确性。

关键词: 偏移正交幅度调制(OQAM) 循环平稳 谱相关函数(SCF) 循环谱截面

Abstract: OQAM/OFDM is a sort of multicarrier signal based on the orthogonal filter bank, and its special generation procedure determines the complexity of cyclic spectral structure. According to the continuous-time baseband model of OQAM/OFDM system, the second-order cyclostationarity of OQAM signals is proved, and the explicit expression of spectral correlation function is derived, meanwhile, the features of Spectral Correlation Function (SCF) for OQAM and the influence of multipath fading channel are investigated. Simulation results sustain the theoretical analysis.

Keywords: Offset Quadrature Amplitude Modulation (OQAM) Cyclostationary Spectral Correlation Function (SCF) Cyclic spectrum profiles

Received 2010-09-29;

本文基金:

国家十一五重点项目(2009AA0111504)资助课题

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引用本文:

李剑强, 崔伟亮, 江桦, 王宁. OQAM/OFDM信号二阶循环平稳性分析[J] 电子与信息学报, 2011, V33(5): 1076-1081

Li Jian-Qiang, Cui Wei-Liang, Jiang Hua, Wang Ning. Second-order Cyclostationarity Analysis of OQAM/OFDM Signals[J], 2011, V33(5): 1076-1081

链接本文:

<http://jeit.ie.ac.cn/CN/10.3724/SP.J.1146.2010.01052> 或 <http://jeit.ie.ac.cn/CN/Y2011/V33/I5/1076>

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