

论文

乘积合并接收的差分跳频通信系统在瑞利衰落信道上抗部分频带干扰的性能分析

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收稿日期 2005-8-16 修回日期 2006-7-24 网络版发布日期 2008-2-20 接受日期

摘要

该文介绍了一种新型短波跳频通信技术——差分跳频，频率转移函数设计和信号的检测方法是差分跳频中的关键技术。在瑞利衰落信道上，在有部分频带干扰和加性高斯白噪声共存的条件下，采用乘积合并接收的方法，对差分跳频通信系统的误符号性能进行了理论分析，同时做出相应的计算机仿真。结果证实了，在瑞利衰落信道上差分跳频通信系统采用乘积合并接收的方法要比采用线性合并接收的方法具备更好的抗部分频带干扰的性能。

关键词 [差分跳频](#) [部分频带干扰](#) [线性合并](#) [乘积合并](#) [瑞利衰落](#)

分类号 [TN914.41](#)

Performance Analysis of Product-Combining Receiver for Differential Frequency Hopping System with Partial Band Jamming over Rayleigh Fading Channel

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Abstract

This paper presents a new frequency hopping system in HF (High Frequency) bands, which is called Differential Frequency Hopping (DFH) system. The frequency transition function and the method of signal detection are the key technologies in this system. The performance of DFH with partial band jamming and additive white Gaussian noise over the Rayleigh fading channel by using product-combining receiver is analyzed in theory, and the corresponding simulation results are given. All these prove that the anti-jam performance of DFH system with product-combining receiver is much better than that with linear-combining receiver.

Key words [Differential Frequency Hopping \(DFH\)](#) [Partial Band Jamming \(PBJ\)](#) [Linear-Combining Receiver \(LCR\)](#) [Product-Combining Receiver \(PCR\)](#) [Rayleigh Fading](#)

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