

论文

一种基于二维处理的OFDM信道估计算法

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摘要

该文提出了一种新的信道估计算法, 用于无线移动通信下的正交频分复用 (OFDM) 系统。该算法对接收的导频信号 (Pilot) 分别在多径展宽域和多普勒展宽域进行处理, 显著地降低了子载波间干扰和高斯白噪声的影响。此外, 多普勒展宽域处理的滤波器是动态设计的, 具有良好的自适应性。仿真结果表明, 在不同的多普勒频偏下, 该算法都有良好的性能。

关键词 [OFDM](#) [信道估计](#) [导频信号](#) [多径展宽](#) [多普勒展宽](#)

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A Two Dimensional Processing Based Channel Estimation Method for Wireless OFDM Systems

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Abstract

This paper proposes a novel channel estimation method for wireless Orthogonal Frequency Division Multiplexing (OFDM) systems. The method can significantly reduce the Inter-Carrier Interference (ICI) and additive white Gaussian noise by processing the received pilots both in multipath spread domain and Doppler spread domain. Furthermore, the method is adaptive in the sense that the cutoff frequency of the filter in the Doppler spread domain is designed dynamically to match the Signal-to-Noise Ratio (SNR). Computer simulation results demonstrate that the proposed method performs well at various Doppler frequency shifts.

Key words [Orthogonal Frequency Division Multiplexing \(OFDM\)](#) [Channel estimation](#) [Pilot](#) [Multipath spread](#) [Doppler spread](#)

DOI:

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