论文

基于分群子载波空时频MIMO-OFDM信道估计

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摘要
针对空时频编码的MIMO-OFDM系统，根据子信道相关特性确定子载波分群，该文提出了独立子群导频法的信道估计处理策略，并将导频序列由空、频两域扩展到空、时、频域，能进一步提高估计精度。理论分析和计算机仿真表明，在频率选择性衰落信道下，基于空时频的独立子群导频法在较低运算复杂度下可以获得信道估计性能的明显改善。

关键词 MIMO-OFDM 信道估计 空时频编码 分群子载波

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Space-Time-Frequency Coded MIMO-OFDM Channel Estimation Based on Subcarrier Grouping

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Abstract
In the Space-Time-Frequency(STF) coded MIMO-OFDM system, dividing the subchannels into groups of less correlated subchannels and applying STF coding to group STF(GSTF) subsystems, this paper proposes novel the optimal training design for GSTF systems where one group is assigned for training and others groups are for data, and the channel estimation based on the optimal training sequence is extended into Space-Time-Frequency dimensions with considering the time dimension. Theoretical analysis and numerical results show that the scheme gives distinct improvements in the channel estimates on frequency-selective fading channels with low coding and decoding complexity.

Key words MIMO-OFDM Channel estimation Space-Time-Frequency(STF) coding Subcarrier grouping

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