



多径衰落信道下的OFDM符号同步算法研究

Research on OFDM symbol synchronization algorithm in Multi-path

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中文摘要

传统基于循环前缀的OFDM最大似然同步算法,在多径衰落信道中,由于多径时延和多普勒频率的缘故,部分循环前缀受到码间加优化的条件下,几乎不可以使用。本文提出了一套改进方案,根据信噪比的高低和多径时延的大小,动态调整参与相关运算的循环表明,该方案在高斯白噪声信道和多径衰落信道下均可以显著减少峰值平顶的长度,并且提高符号同步精度。

英文摘要

Conventional maximum likelihood algorithm based on cyclic prefix has plateau effect and has no obvious peak in the multi-path delays and Doppler effects, because some of the cyclic prefixes have been polluted by ISI (Inter-Symbol path channels without optimization. A new improved method based on the cyclic prefixes is proposed in this paper, which correlation calculation according to the signal-noise ratio and multi-path delays and uses average correlation value proposed method can get sharp peak values and improve the symbol precision compared with the existing methods both in and in multi-path channels. In multi-path channel it can significantly decrease plateau effect.