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## 突发多相移相键控通信中应用离散傅立叶变换内插技术联合估计载波参数

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**摘要:** 在突发数字通信中, 通常采用相干检测, 为解决参考载波的同步这一关键问题, 给出了一种多相移相键控 (MPSK) 信号, 利用离散傅立叶变换 (DFT) 内插技术, 在较大频偏范围内联合估计载波频率和相位的算法。这种算法不需要增加DFT数据长度, 适合突发工作方式。以正交移相键控 (QPSK) 信号为例, 讨论了这种算法的理论推导和性能, 并给出了计算机仿真的结果。

**关键词:** 通信技术; 载波同步; 离散傅立叶变换; 内插技术; 克拉美罗界; 多相移相键控

**中图分类号:** TN911; TN914

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## A Simple Interpolation Technique for the DFT for Joint System Parameters Estimation in Burst MPSK

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**Abstract:** In burst mode digital transmission, carrier synchronization is a key technique in the coherent demodulation of multiphase shift key (MPSK) signals and is directly related to the specification to demodulation. The algorithm of estimating carrier frequency and phase was proposed by a simple frequency domain interpolation technique for discrete Fourier transform. The algorithm can significantly improve the frequency and phase resolution capabilities of the DFT without increasing its data size. The principle and performance of the algorithm was analyzed and the result of the simulation was given.

**Key Words:** communication technique; carrier synchronization; DFT; interpolation; CRB; MPSK

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