

论文

## 连续相位调制的非相干复合网格解调算法

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摘要

该文提出了一种基于复合网格处理的CPM信号非相干解调算法。该算法将CPM信号的基本网格图和相位旋转网格图合并组成复合网格图,并在复合网格图的单元网格之间引入状态耦合转移,实现了对CPM信号初始相位和频偏的有效跟踪。仿真表明,当单元网格数达到4个以上时,该文提出的非相干解调算法性能非常接近相干解调,且具有较好的频偏跟踪性能,对于载波恢复困难的盲解调情况具有实用意义。

关键词 [信号处理](#) [连续相位调制](#) [非相干解调](#) [复合网格](#)

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## A Non-coherent Composite Trellis Demodulation Algorithm of Continuous Phase Modulation

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Abstract

A non-coherent demodulation algorithm of CPM signal based on composite trellis processing is proposed in this paper. This algorithm figures out composite trellis diagram by combining root trellis diagram and multiple component trellis diagrams which are each a phase-displaced version of a root trellis diagram. It takes advantage of trellis coupling transitions between component trellis diagrams, which helps to trace the original phase of CPM signal and frequency offset effectively. Simulation results show the performance of the proposed algorithm approximates coherent demodulation perfectly when the number of component trellis diagram is greater than four. It is more appropriate to the situation of blind demodulation when carrier recovery is difficult.

Key words [Signal processing](#) [Continuous Phase Modulation \(CPM\)](#) [Non-coherent demodulation](#) [Composite Trellis](#)

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