

具有几乎最优自相关幅度二元序列的构造

张璇*^① 温巧燕^② 秦静^{③*}

^①(山东财政学院统计与数理学院 济南 250014)

^②(北京邮电大学网络与交换技术国家重点实验室 北京 100876)

^③(山东大学数学学院 济南 250100)

Constructions of Binary Sequences with Almost Optimal Autocorrelation Magnitude

Zhang Xuan^① Wen Qiao-yan^② Qin Jing^{③*}

^①(School of Statistic and Mathematics, Shandong University of Finance, Jinan 250014, China)

^②(State key laboratory of Networking and Switching Technology, Beijing University of Posts and Telecommunications, Beijing 100876, China)

^③(School of Mathematics, Shandong University, Jinan 250100, China)

摘要

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摘要 该文提出具有几乎最优自相关幅度二元序列的5种构造方案。第1种构造是利用任意理想2-值自相关序列来构造的,其余4种构造是基于某些序列及其修正版序列,且给出新序列周期自相关函数值的分布。利用 $2N \times 2$ 交织序列构造的二元序列,其周期自相关函数值除了一个点外均达到最优。这将为CDMA通信系统及其他应用提供更多的选择。

关键词: 二元序列 交织序列 几乎最优自相关幅度

Abstract: In this paper, five constructions of binary sequences with almost optimal autocorrelation magnitude are proposed. The first construction is to use an arbitrary ideal 2-level autocorrelation sequence. The other four constructions are based on some sequences and their modified versions. $2N \times 2$ interleaved sequences are used to get the sequences whose values of the autocorrelations are optimal except one points. And the distributions of the periodic autocorrelation functions of the resultant sequences are given. The results provide more choices for CDMA system and other applications.

Keywords: Binary sequences Interleaved sequences Almost optimal autocorrelation magnitude

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通讯作者: 张璇 Email: zhxx100@163.com

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