<<设计理论>>

图书基本信息

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前言

The present book iS based on the lecture notes of a graduate course DesignTheory which was given at the Center for Combinatorics of Nankai Unver—sity in spring of 2001. The lecture notes were scattered over the expertsand students, modified year by year following some of their suggestions, and finally came to the present form. The course consists of mainly the basic classical subiects of design the-ory, namely, balanced incomplete block designs, latin squares, t-designsand partially balanced incomplete block designs, and ends with associationschemes. The fundamental concepts of balanced incomplete block designs aregiven in Chapter 1 and various classical constructions appear in Chap—ters 2 and 3. Orthogonal latin squares are studied in Chapter 4. Theconstruction of some families of balanced incomplete block designs, likeSteiner triple systems and Kirkman triple systems, appears in Chapter 6, and as a preparation pairwise balanced designs and group divisible designsare introduced in Chapter 5. t-designs and partially balanced incompleteblock designs, as generalizations of balanced incomplete block designs, arestudied in Chapters 7, 8 and Chapter 9, respectively . The author iS mostly grateful to Profcssor Rodney Roberts of FloridaState University, Professor Shenglin Zhou of South China University ofTechnology and Professor Lie Zhu of Soochow University, who read themanuscript carefully, pointed out many typos and give valuable sugges—tions. Professor Zhou also prepared the bibliography and exercises for thebook. Finally.

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内容概要

This book deals with the basic subjects of design theory.It begins with balanced incomplete block designs， various constructions of which are described in ample detail.In particular， finite projective and affine planes,difference sets and Hadamard matrices， as tools to construct balanced incomplete block designs， are included.Orthogonal latin squares are also treated in detail.Zhu's simpler proof of the falsity of Euler's conjecture is included.The construction of some classes of balanced incomplete block designs， such as Steiner triple systems and Kirkman triple systems ， are also given. T-designs and partially balanced incomplete block designs (together with association schemes) ， as generalizations of balanced incomplete block designs， are included.Some coding theory related to Steiner triple systems are clearly explained. The book is written in a lucid style and is algebraic in nature.It can be used as a text or a reference book for graduate students and researchers in combinatorics and applied mathematics.It is also suitable for self-study.

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书籍目录

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编辑推荐

《设计理论》由高等教育出版社与新加坡世界科技出版社（WSP）合作出版，全球发行。

设计理论是组合数学的一个重要分支，《设计理论》是根据作者在南开大学组合中心为研究生讲课的讲义，润色、补充而成，是一本设计理论的引论性书籍，涵盖最基本的古典设计理论。内容包括：Symmetric BIBDs、Resolvable BIBDs、Orthogonal Latin Squares等。

《设计理论》适合组合数学、计算机科学等相关专业的学生和教师使用参考。

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