

**Shah, Kirti R.; Sinha, Bikas K.**

**Theory of optimal designs.** (English) Zbl 0688.62043

*Lecture Notes in Statistics*, 54. Berlin etc.: Springer-Verlag. viii, 171 p. DM 36.00 (1989).

This book is dedicated to the late Professor Jack Kiefer, who as the authors say “has been a source of illumination and inspiration to our thoughts on this topic”. It is a book (although in a preliminary and incomplete version) which belongs on the desks of statisticians working in optimal design theory or related combinatorial theory. The book is certainly not aimed at practitioners although optimal designs in various settings are pointed out. It is a good book at the graduate level in Design of Optimal Experiments, although problems and exercises will have to be made up.

The topics are developed in eight chapters: 1. Optimality criteria in design of experiments. 2. Block designs: general optimality. 3. Block designs: specific optimality. 4. Row-column designs. 5. Mixed effects models. 6. Repeated measurements designs. 7. Optimal design for some special cases. 8. Weighing designs.

There is an adequate author- and subject index as well. The title of the book is misleading since not all aspects of the theory of optimal designs are covered. For example, the important and practical topic of optimal factorial designs has been completely left out. Hopefully the final version of the book will contain among the added chapters a chapter on this topic. Finally the authors are to be congratulated for this first and preliminary attempt.

Reviewer: [B.Raktoe](#)

**MSC:**

[62K05](#) Optimal statistical designs

[62-02](#) Research exposition (monographs, survey articles) pertaining to statistics

Cited in **2** Reviews  
Cited in **90** Documents

**Keywords:**

[general optimality](#); [specific optimality](#); [Row-column designs](#); [Mixed effects models](#); [Repeated measurements designs](#); [Weighing designs](#)