

Optimum Experimental Designs, With SAS

Atkinson, Anthony and Donev, Alexander and Tobias,
Randall

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Optimum Experimental Designs, With SAS


Anthony Atkinson, Alexander Donev, and Randall Tobias
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Description

- Extremely timely
- Experienced author team
- Numerous figures
- End of chapter notes on further reading
- Ideal for students and researchers in Statistics, and experimentalists in Medical, Pharmaceutical and Chemical Industries
- Supporting website with SAS program codes, problems and solutions
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Experiments on patients, processes or plants all have random error, making methods essential for their efficient design and analysis. This book presents methods of optimum experimental design, making them available through the use of SAS programs. Little previous statistical knowledge is assumed. The first part of the book stresses the importance of models in the analysis of data and introduces the concepts of least squares fitting and simple optimum experimental designs. The second part provides a more detailed discussion of the general theory and of a wide variety of experimental designs. The book stresses the use of SAS to provide hands-on solutions for the construction of optimum designs in both standard and non-standard situations. The mathematical theory of optimum designs is developed in parallel with their construction in SAS, so providing a practical approach to the development of the subject. Many chapters cover self-contained topics, such as designs from science, engineering and pharmaceutical investigations, such as response surface designs, blocking of experiments, designs for mixture experiments and for generalized linear models. Understanding is aided by the provision of "SAS code" for most chapters as well as by more traditional exercises and a fully supported website. The authors are leading experts in key fields and this book is ideal for statisticians, scientists in academia, research and the process and pharmaceutical industries.

Readership: Students and researchers in statistics, and experimentalists in the pharmaceutical and chemical industries.

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