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B Projection on the Null Space of the Constraint Matrix;
Acknowledgements; References
3 On the Empirical Relevance of Optimal Designs for the Measurement of Preferences
3.1 Introduction; 3.2 Conjoint Analysis; 3.3 Paired Comparison Models in Conjoint Analysis; 3.4 Design Issues; 3.5 Experiments; 3.5.1 Experiment 1; 3.5.2 Experiment 2; 3.6 Discussion; Acknowledgements; References; 4 Designing Optimal Two-stage Epidemiological Studies; 4.1 Introduction; 4.2 Illustrative Examples; 4.2.1 Example 1; 4.2.2 Example 2; 4.2.3 Example 3; 4.3 Meanscore; 4.3.1 Example of meanscore; 4.4 Optimal Design and Meanscore; 4.4.1 Optimal design derivation for fixed second stage sample size
4.4.2 Optimal design derivation for fixed budget
4.4.3 Optimal design derivation for fixed precision; 4.4.4 Computational issues; 4.5 Deriving Optimal Designs in Practice; 4.5.1 Data needed to compute optimal designs; 4.5.2 Examples of optimal design; 4.5.3 The optimal sampling package; 4.5.4 Sensitivity of design to sampling variation in pilot data; 4.6 Summary; 4.7 Appendix 1 Brief Description of Software Used; 4.7.1 R language; 4.7.2 S-PLUS; 4.7.3 STATA; 4.8 Appendix 2 The Optimal Sampling Package; 4.8.1 Illustrative data sets; 4.9 Appendix 3 Using the Optimal Package in R
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5.4 Variance Depending on Unknown Parameters and Multi-response Models

Sommario/riassunto

There is an increasing need to rein in the cost of scientific study without sacrificing accuracy in statistical inference. Optimal design is the judicious allocation of resources to achieve the objectives of studies using minimal cost via careful statistical planning. Researchers and practitioners in various fields of applied science are now beginning to recognize the advantages and potential of optimal experimental design. Applied Optimal Designs is the first book to catalogue the application of optimal design to real problems, documenting its widespread use across disciplines as diver
