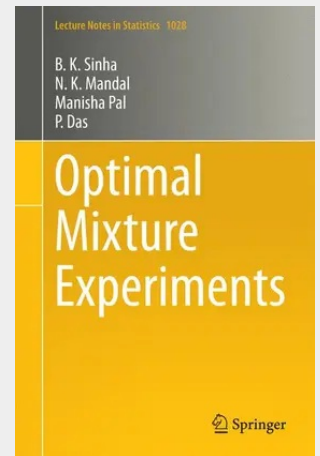


Optimal Mixture Experiments

The book dwells mainly on the optimality aspects of mixture designs. As mixture models are a special case of regression models, a general discussion on regression designs has been presented, which includes topics like continuous designs, de la Garza phenomenon, Loewner order domination, Equivalence theorems for different optimality criteria and standard optimality results for single variable polynomial regression and multivariate linear and quadratic regression models. This is followed by a review of the available literature on estimation of parameters in mixture models. Based on recent research findings, the volume also introduces optimal mixture designs for estimation of optimum mixing proportions in different mixture models, which include Scheffé's quadratic model, Darroch-Waller model, log-contrast model, mixture-amount models, random coefficient models and multi-response model. Robust mixture designs and mixture designs in blocks have been also reviewed. Moreover, some applications of mixture designs in areas like agriculture, pharmaceuticals and food and beverages have been presented. Familiarity with the basic concepts of design and analysis of experiments, along with the concept of optimality criteria are desirable prerequisites for a clear understanding of the book. It is likely to be helpful to both theoreticians and practitioners working in the area of mixture experiments.

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