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Soggetti	Industrial engineering - Experiments - Computer-aided design Experimental design - Data processing Industrial engineering Computer-aided design Case studies.
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Nota di contenuto	A Simple Comparative Experiment -- An Optimal Screening Experiment -- Adding Runs to a Screening Experiment -- A Response Surface Design with a Categorical Factor -- A Response Surface Design in an Irregularly Shaped Design Region -- A 'Mixture' Experiment with Process Variables -- A Response Surface Design in Blocks -- A Screening Experiment in Blocks -- Experimental Design in the Presence of Covariates -- A Split-Plot Design -- A Two-Way Split-Plot Design.
Sommario/riassunto	"This book demonstrates the utility of the computer-aided optimal design approach using real industrial examples. These examples address questions such as the following: How can I do screening inexpensively if I have dozens of factors to investigate? What can I do if I have day-to-day variability and I can only perform 3 runs a day? How can I do RSM cost effectively if I have categorical factors? How can I design and analyze experiments when there is a factor that can only be changed a few times over the study? How can I include both ingredients

in a mixture and processing factors in the same study? How can I design an experiment if there are many factor combinations that are impossible to run? How can I make sure that a time trend due to warming up of equipment does not affect the conclusions from a study? How can I take into account batch information in when designing experiments involving multiple batches? How can I add runs to a botched experiment to resolve ambiguities?While answering these questions the book also shows how to evaluate and compare designs. This allows researchers to make sensible trade-offs between the cost of experimentation and the amount of information they obtain. The structure of the book is organized around the following chapters: 1) Introduction explaining the concept of tailored DOE. 2) Basics of optimal design. 3) Nine case studies dealing with the above questions using the flow: description-design-analysis-optimization or engineering interpretation. 4) Summary. 5) Technical appendices for the mathematically curious"--