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Nota di contenuto	APPLICATIONS OF STATISTICS TO INDUSTRIAL EXPERIMENTATION; Preface; Acknowledgments; Contents; Chapter 1 Introduction; 1.1 The range of industrial research; 1.2 Scientific methods; 1.3 Making each piece of data work twice; 1.4 First stages in planning industrial experiments; 1.5 Statistical background required; 1.6 Doing the arithmetic; 1.7 Sequences of experiments; 1.8 The future of "industrial" designs; Chapter 2 Simple Comparison Experiments; 2.1 An example; 2.2 The effect of a Factor?; Chapter 3 Two Factors, Each at Two Levels; 3.1. Introduction; 3.2 Factorial representations 3.3 Yates's algorithm for effects in the 223.4 Interpretation of a factorial experiment when interactions are present; 3.5 Intermediate summary; 3.6 The replicated22; 3.6.1 General remarks on replication; 3.6.2 Limitations of randomization; 3.6.3 When is randomization useful?; 3.6.4 An example; 3.7 Summary; Appendix 3.A The analysis of variance identities; Chapter 4 Two Factors, Each at Three Levels; 4.1 Introduction; 4.2 Both factors have numerically scaled levels,; 4.3 Standard computations in a 32; 4.4 One-cell interaction; 4.5 Simpler interpretation of ALBQ, AQBL and AQBQ

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5.7 Interpretation with one factor discontinuous5.8 Representation when two factors are continuous; 5.9 Contours of standard error of fitted Y; 5.10 A numerical check for Yates's 2P-aIgorithm; 5.11 Interpretation of the 23; 5.12 One bad value in a 23+o; 5.13 Blocking the 23; 5.14 Summary; Appendix 5.A The variance of linear functions of uncorrelated random variables; Chapter 6 Unreplicated Four-Factor, Two-Level Experiments; 6.1 Introduction; 6.2 The first computations; 6.3 Interpretation of the first computations; 6.3.1 The empirical cumulative distribution of the residuals
6.3.2 The dy versus Y plot6.4 Looking for simple models; 6.5 A note on rounding in Yates's algorithm; 6.6 Snares (and delusions); Appendix 6. A Forty empirical cumulation distributions, independent standard normal deviates; Chapter 7 Three Five-Factor, Two-Level Unreplicated Experiments; 7.1 Introduction; 7.2 Yates's 25 on beans; 7.2.1 Description; 7.2.2 Standard computations; 7.2.3 Residuals in place; 7.2.4 Dropping the factorial representation; 7.2.5 A common result: IAl = IBI = IABl; 7.3 Davies' 25 on penicillin; 7.3.1 Description; 7.3.2 When to log; 7.3.3 A bad value
7.3.4 Effects of factors on residuals

Sommario/riassunto

Other volumes in the Wiley Series in Probability and Mathematical Statistics, Ralph A. Bradley, J. Stuart Hunter, David G. Kendall, & Geoffrey S. Watson, Advisory Editors Statistical Models in Applied Science Karl V. Bury Of direct interest to engineers and applied scientists, this book presents general principles of statistics and specific distribution methods and models. Prominent distribution properties and methods that are useful over a wide range of applications are covered in detail. The strengths and weaknesses of the distributional models are fully described, giving the reader a firm,