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Collana	Wiley series in probability and mathematical statistics. Applied probability and statistics
Altri autori (Persone)	HoaglinDavid C <1944-> (David Caster) MostellerFrederick <1916-2006.> TukeyJohn W <1915-2000.> (John Wilder)
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Nota di contenuto	Fundamentals of Exploratory Analysis of Variance; Contents; 1. Concepts and Examples in Analysis of Variance; 1A. Interaction in ANOVA; 1B. A Graphical Analysis of a Complex Experiment on the Hardness of Dental Gold; 1C. An Election Example; 1D. Why Main Effects and Interactions?; Exercises; 2. Purposes of Analyzing Data that Come in a Form Inviting Us to Apply Tools from the Analysis of Variance; 2A. Purposes Can Be Both Diverse and Unfamiliar; 2B. A Quantitative Microcosm; 2C. More Classic Purposes; 2D. Causation, Experimentation, and Observation; 2E. Summary; Exercises 3. Preliminary Examination of Data3A. Editing; 3B. Appreciating the Data; 3C. Plots of the Data; 3D. Boxplots; 3E. Stem-and-Leaf Displays; 4. Types of Factors and Their Structural Layouts; 4A. Types of Factors; 4B. Relationships Between Factors; 4C. One-way and Two-way Layouts; 4D. Three-Way and More-Way Layouts; 4E. Summary; Exercises; 5. Value-Splitting: Taking the Data Apart; 5A. Forming Overlays; 5B.

Overlays for One-way Data; 5C. What the Residuals Tell Us; 5D. Comparing Overlays: An ANOVA Table; 5E. Designs with Two Crossed Factors; 5F. Interaction and Replication
 5G. Two-Factor Designs with Replication 5H. Two-Factor Data with Nesting; 5I. Other Descriptions; 5J. Summary; Exercises; 6. Value Splitting Involving More Factors; 6A. Three Crossed Factors; 6B. Four Crossed Factors; 6C. Latin Square Designs; 6D. Summary; Exercises; 7. Mean Squares, F Tests, and Estimates of Variance; 7A. Formal Inferences: The F Test; 7B. Broadening the Base for the F Test; 7C. (Optional) Note on the Relation of the Pitman-Welch Work to an Ordinary F Distribution; 7D. Confidence Intervals for μ_2 Under Ideal Conditions; 7E. Sensitivity to the Assumption of Normality Exercises
 8. Graphical Display as an Aid to Analysis; 8A. An Overview of Graphical Methods for One-way ANOVA; 8B. Graphical Display for Two-Factor Data; 8C. A Side-by-Side Plot Attuned to Mean Squares; 8D. A Detailed Example: Percentage of Americans Who Have Never Married; 8E. Patterns or Noise?; 8F. Exploring Residuals Graphically; 8G. Summary; Exercises; 9. Components of Variance; 9A. Structures Leading to Components in One-way Analysis of Variance; 9B. Example: Variance Components for Blood Pressure; 9C. Alternative Methods for Estimating Variance Components
 9D. Confidence Intervals for Variance Components 9E. Unbalanced Cases (Expected-Mean-Square Method); 9F. Two-way Tables; 9G. Example: Nationalization of Electoral Forces; 9H. Summary; Exercises; 10. Which Denominator?; 10A. Analyzing the Structure; 10B. The Sampling or Pigeonhole Model; 10C. The Notion of "Above"; 10D. Three-Way Special Cases; 10E. Constructing an Appropriate Error Term; 10F. Estimation of Variance Components in a Two-way Analysis of Variance by Equating Average Values; 10G. An Alternative Model for Interaction in Two-way Analysis of Variance
 10H. A Three-Way Example: Tumor Size

Sommario/riassunto

The analysis of variance is presented as an exploratory component of data analysis, while retaining the customary least squares fitting methods. Balanced data layouts are used to reveal key ideas and techniques for exploration. The approach emphasizes both the individual observations and the separate parts that the analysis produces. Most chapters include exercises and the appendices give selected percentage points of the Gaussian, t, F chi-squared and studentized range distributions.
