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Nota di contenuto	STATISTICAL TOLERANCE REGIONS: Theory, Applications, and Computation; Contents; List of Tables; Preface; Chapter 1. Preliminaries; 1.1 Introduction; 1.1.1 One-sided Tolerance Intervals; 1.1.2 Tolerance Intervals; 1.1.3 Survival Probability and Stress-Strength Reliability; 1.2 Some Technical Results; 1.3 The Modified Large Sample (MLS) Procedure; 1.4 The Generalized P-value and Generalized Confidence Interval; 1.4.1 Description; 1.4.2 GPQs for a Location-Scale Family; 1.4.3 Some Examples; 1.5 Exercises; Chapter 2. Univariate Normal Distribution; 2.1 Introduction 2.2 One-sided Tolerance Limits for a Normal Population2.3 Two-sided Tolerance Intervals; 2.3.1 Tolerance Intervals; 2.3.2 Equal-Tailed Tolerance Intervals for a Normal Distribution; 2.3.3 Simultaneous Hypothesis Testing about Normal Quantiles; 2.4 Tolerance Limits for X1 - X2; 2.4.1 Exact One-sided Tolerance Limits for the Distribution of X1 - X2 When the Variance Ratio Is Known; 2.4.2 One-sided Tolerance Limits for the Distribution of X1 - X2 When the Variance Ratio Is

Unknown; 2.4.3 Hypothesis Testing About the Quantiles of $X_1 - X_2$
 2.4.4 Comparison of the Approximate Methods for Making Inference
 about Quantiles of $X_1 - X_2$; 2.4.5 Applications of Tolerance Limits for X_1
 $- X_2$ with Examples; 2.5 Simultaneous Tolerance Limits for Normal
 Populations; 2.5.1 Simultaneous One-sided Tolerance Limits; 2.5.2
 Simultaneous Tolerance Intervals; 2.6 Exercises; Chapter 3. Univariate
 Linear Regression Model; 3.1 Notations and Preliminaries; 3.2 One-
 sided Tolerance Intervals and Simultaneous Tolerance Intervals; 3.2.1
 One-sided Tolerance Intervals; 3.2.2 One-sided Simultaneous
 Tolerance Intervals
 3.3 Two-sided Tolerance Intervals and Simultaneous Tolerance
 Intervals; 3.3.1 Two-sided Tolerance Intervals; 3.3.2 Two-sided
 Simultaneous Tolerance Intervals; 3.4 The Calibration Problem; 3.5
 Exercises; Chapter 4. The One-way Random Model with Balanced Data;
 4.1 Notations and Preliminaries; 4.2 Two Examples; 4.3 One-sided
 Tolerance Limits for $N(\mu, \sigma^2)$; 4.3.1 The Mee-Owen Approach;
 4.3.2 Vangel's Approach; 4.3.3 The Krishnamoorthy-Mathew Approach;
 4.3.4 Comparison of Tolerance Limits; 4.3.5 Examples; 4.3.6 One-
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 4.3.7 One-sided Tolerance Limits When the Variance Ratio Is Known
 4.4 One-sided Tolerance Limits for $N(\mu, \sigma^2)$; 4.5 Two-sided Tolerance
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 Lin-Iyer Approach; 4.6 Two-sided Tolerance Intervals for $N(\mu, \sigma^2)$;
 4.7 Exercises; Chapter 5. The One-way Random Model with Unbalanced
 Data; 5.1 Notations and Preliminaries; 5.2 Two Examples; 5.3 One-
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 and Mathew Approach; 5.3.2 The Liao, Lin and Iyer Approach; 5.3.3
 One-sided Confidence Limits for Exceedance Probabilities
 5.4 One-sided Tolerance Limits for $N(\mu, \sigma^2)$

Sommario/riassunto

A modern and comprehensive treatment of tolerance intervals and regions. The topic of tolerance intervals and tolerance regions has undergone significant growth during recent years, with applications arising in various areas such as quality control, industry, and environmental monitoring. Statistical Tolerance Regions presents the theoretical development of tolerance intervals and tolerance regions through computational algorithms and the illustration of numerous practical uses and examples. This is the first book of its kind to successfully balance theory and practice, providing