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Autore	Staudte Robert G
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2.3.4 Simulation Results; 2.3.5 Finite Sample Breakdown Point; 2.4 Standard Errors, the Bootstrap
2.4.1 Traditional Estimates of Standard Error2.4.2 Bootstrap Estimates of Standard Error; 2.4.3 An Illustration of Bootstrap Calculations; 2.4.4 Evaluating the Standard Error Estimates; 2.5 Problems; 2.6 Complements; 2.6.1 The Breakdown Point; 2.6.2 Further Developments on the Bootstrap; 3. Estimating Scale-Asymptotic Results; 3.1 Consistency, Asymptotic Normality, and Efficiency; 3.1.1 Representing Estimators by Descriptive Measures; 3.1.2 Consistency, Asymptotic Normality, and Relative Efficiency; 3.2 Robustness Concepts; 3.2.1 The Breakdown Point; 3.2.2 The Influence Function
3.2.3* L-Estimators3.2.4* Qualitative Robustness; 3.2.5 Concluding Remarks; 3.3 Descriptive Measures of Scale; 3.3.1 Measures of Scale; 3.3.2 Efficiency in Terms of Standardized Variance; 3.3.3 Simulation Results; 3.3.4 Summary; 3.4* Stability of Estimators on Neighborhoods of the Exponential Scale Parameter Family; 3.4.1 The Relative Efficiency Approach; 3.4.2 The Infinitesimal Approach; 3.5 Estimates of Standard Error; 3.5.1 Influence Function Estimates; 3.5.2 Bootstrap Estimates of Standard Error; 3.6 Problems; 3.7 Complements; 3.7.1 Sensitivity Curve 3.7.2 Resistant Estimates and Qualitative Robustness3.7.3 Standard and Nonstandard Errors; 4. Location-Dispersion Estimation; 4.1 Introduction and Examples; 4.1.1 Some Initial Questions; 4.1.2 Examples; 4.2 Location-Scale Parameter Families; 4.2.1 Definitions and Properties; 4.2.2 Examples of Location-Scale Families; 4.3 Estimators of Location; 4.3.1 Descriptive Measures of Location; 4.3.2 L-Estimators; 4.3.3 M-Estimators; 4.3.4 R-Estimators; 4.4 Estimators of Dispersion; 4.4.1 Descriptive Measures of Dispersion; 4.4.2 Performance of Some Dispersion Estimators
4.5 Joint Estimation of Location and Dispersion

Sommario/riassunto

An introduction to the theory and methods of robust statistics, providing students with practical methods for carrying out robust procedures in a variety of statistical contexts and explaining the advantages of these procedures. In addition, the text develops techniques and concepts likely to be useful in the future analysis of new statistical models and procedures. Emphasizing the concepts of breakdown point and influence functon of an estimator, it demonstrates the technique of expressing an estimator as a descriptive measure from which its influence function can be derived and then used to