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Nota di contenuto	- Challenges of Applied Extreme Value Statistics -- Classical Extreme Value Theory -- The Peaks-Over-Threshold Method -- A Point Process Approach to Extreme Value Statistics -- The ACER Method -- Some Practical Aspects of Extreme Value Analyses -- Estimation of Extreme Values for Financial Risk Assessment -- The Upcrossing Rate via the Characteristic Function -- Monte Carlo Methods and Extreme Value Estimation -- Bivariate Extreme Value Distributions -- Space-Time Extremes of Random Fields -- A Case Study - Extreme Water Levels.
Sommario/riassunto	This book does not focus solely on asymptotic extreme value distributions. In addition to the traditional asymptotic methods, it introduces a data-driven, computer-based method, which provides insights into the exact extreme value distribution inherent in the data, and which avoids asymptotics. It therefore differs from currently available texts on extreme value statistics in one very important aspect. The method described provides a unique tool for diagnostics, and for efficient and accurate extreme value prediction based on measured or simulated data. It also has straightforward extensions to multivariate

extreme value distributions. The first half provides an introduction to extreme value statistics with an emphasis on applications. It includes chapters on classical asymptotic theories and threshold exceedance models, with many illustrative examples. The mathematical level is elementary and, to increase readability, detailed mathematical proofs have been avoided in favour of heuristic arguments. The second half presents in some detail specialized topics that illustrate the power and the limitations of the concepts discussed. With diverse applications to science, engineering and finance, the techniques described in this book will be useful to readers from many different backgrounds.