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Nota di contenuto	Table of Contents; Title; Copyright; Preface; Introduction; I.1. The scope of this book; I.2. A generic case: the Hoel and Levine extrapolation scheme and the uniform interpolation design of Guest; I.3. Extrapolation design in non standard cases, algorithms; I.4. Uniform approximation of functions, an outlook; I.5. A general bibliography; PART 1: Elements from Approximation Theory; 1 Uniform Approximation; 1.1. Canonical polynomials and uniform approximation; 1.2. Existence of the best approximation; 1.3. Characterization and uniqueness of the best approximation 2 Convergence Rates for the Uniform Approximation and Algorithms 2.1. Introduction; 2.2. The Borel-Chebyshev theorem and standard functions; 2.3. Convergence of the minimax approximation; 2.4. Proof of the de la Vallee Poussin theorem; 2.5. The Yevgeny Yakovlevich Remez algorithm; 3 Constrained Polynomial Approximation; 3.1. Introduction and examples; 3.2. Lagrange polynomial interpolation; 3.3. The interpolation error; 3.4. The role of the nodes and the minimization of the interpolation error; 3.5. Convergence of the interpolation approximation; 3.6. Runge phenomenon and lack of convergence

5 An Introduction to Extrapolation Problems Based on Observations on a Collection of Intervals
5.1. Introduction; 5.2. The model, the estimator and the criterion for the choice of the design; 5.3. A constrained Borel-Chebyshev theorem; 5.4. Qualitative properties of the polynomial which determines the optimal nodes; 5.5. Identification of the polynomial which characterizes the optimal nodes; 5.6. The optimal design in favorable cases; 5.7. The optimal design in the general case; 5.8. Spruill theorem: the optimal design

6 Instability of the Lagrange Interpolation Scheme With Respect to Measurement Errors
6.1. Introduction; 6.2. The errors that cannot be avoided; 6.3. Control of the relative errors; 6.4. Randomness; 6.5. Some inequalities for the derivatives of polynomials; 6.6. Concentration inequalities; 6.7. Upper bounds of the extrapolation error due to randomness, and the resulting size of the design for real analytic regression functions; PART 3: Mathematical Material; Appendix 1:

Normed Linear Spaces; A1.1. General notions

A1.2. Compatibility between the topological and the linear structure in linear spaces
