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Descrizione fisica	1 online resource (403 pages)
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Soggetti	Numerical analysis Mathematical physics Engineering mathematics
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Note generali	Includes bibliographical references (p. 369-371) and index
Nota di bibliografia	Includes bibliographical references (pages 369-371) and index.
Nota di contenuto	Solution methods for scalar nonlinear equations -- Polynomial interpolation -- Numerical differentiation -- Numerical integration -- Numerical linear algebra -- Systems of nonlinear equations -- Numerical fourier analysis -- Ordinary differential equations.
Sommario/riassunto	"This book helps readers understand the mathematical and algorithmic elements that lie beneath numerical and computational methodologies in order to determine the suitability of certain methods for solving a given problem. This book is broken into two parts. Part I addresses the root finding of univariate trascendental equations, polynomial interpolation, numerical differentiation and numerical integration. Part II addresses slightly more advanced topics such as introductory numerical linear algebra, parameter dependent systems of nonlinear equations, approximation theory and ordinary differential equations (initial value problems and univariate boundary value problems). This book contains examples related to problems in classical mechanics, thermodynamics, electromagnetism and quantum physics. The author discusses Bisection method, computational cost, Barycentric

interpolatory formula, Fixed point iteration method, and Linear Multistep Formulas (LMSF). Each section concludes with Matlab practicals and problem and exercise sets"--
