1. Record Nr. UNINA9910143178703321

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Titolo	Fundamentals of matrix computations / / David S. Watkins
Pubbl/distr/stampa	New York, : Wiley-Interscience, c2002
ISBN	1-280-54182-2 9786610541829 0-471-46167-9 0-471-24971-8
Edizione	[2nd ed.]
Descrizione fisica	1 online resource (635 p.)
Collana	Pure and applied mathematics
Disciplina	512.9/434 512.9434
Soggetti	Matrices Numerical analysis
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references (p. 605-610) and indexes.
Nota di contenuto	Contents; Preface; Acknowledgments; 1 Gaussian Elimination and Its Variants; 1.1 Matrix Multiplication; 1.2 Systems of Linear Equations; 1.3 Triangular Systems; 1.4 Positive Definite Systems; Cholesky Decomposition; 1.5 Banded Positive Definite Systems; 1.6 Sparse Positive Definite Systems; 1.7 Gaussian Elimination and the LU Decomposition; 1.8 Gaussian Elimination with Pivoting; 1.9 Sparse Gaussian Elimination; 2 Sensitivity of Linear Systems; 2.1 Vector and Matrix Norms; 2.2 Condition Numbers; 2.3 Perturbing the Coefficient Matrix; 2.4 A Posteriori Error Analysis Using the Residual 2.5 Roundoff Errors Backward Stability; 2.6 Propagation of Roundoff Errors; 2.7 Backward Error Analysis of Gaussian Elimination; 2.8 Scaling; 2.9 Componentwise Sensitivity Analysis; 3 The Least Squares Problem; 3.1 The Discrete Least Squares Problem; 3.2 Orthogonal Matrices, Rotators, and Reflectors; 3.3 Solution of the Least Squares Problem; 3.4 The Gram-Schmidt Process; 3.5 Geometric Approach; 3.6 Updating the QR Decomposition; 4 The Singular Value Decomposition; 4.1 Introduction; 4.2 Some Basic Applications of Singular Values; 4.3 The SVD and the Least Squares Problem 4.4 Sensitivity of the Least Squares Problem5 Eigenvalues and

Eigenvectors I; 5.1 Systems of Differential Equations; 5.2 Basic Facts; 5.3 The Power Method and Some Simple Extensions; 5.4 Similarity Transforms; 5.5 Reduction to Hessenberg and Tridiagonal Forms; 5.6 The QR Algorithm; 5.7 Implementation of the QR algorithm; 5.8 Use of the QR Algorithm to Calculate Eigenvectors; 5.9 The SVD Revisited; 6 Eigenvalues and Eigenvectors II; 6.1 Eigenspaces and Invariant Subspaces; 6.2 Subspace Iteration, Simultaneous Iteration, and the QR Algorithm; 6.3 Eigenvalues of Large, Sparse Matrices, I
6.4 Eigenvalues of Large, Sparse Matrices, II6.5 Sensitivity of Eigenvalues and Eigenvectors; 6.6 Methods for the Symmetric Eigenvalue Problem; 6.7 The Generalized Eigenvalue Problem; 7 Iterative Methods for Linear Systems; 7.1 A Model Problem; 7.2 The Classical Iterative Methods; 7.3 Convergence of Iterative Methods; 7.4 Descent Methods; Steepest Descent; 7.5 Preconditioners; 7.6 The Conjugate-Gradient Method; 7.7 Derivation of the CG Algorithm; 7.8 Convergence of the CG Algorithm; 7.9 Indefinite and Nonsymmetric Problems; Appendix: Some Sources of Software for Matrix Computations
ReferencesIndex; A; B; C; D; E; F; G; H; I; J; K; L; M; N; O; P; Q; R; S; T; U; V; W; Index of MATLAB Terms; A; B; C; D; E; F; G; H; I; K; L; M; N; O; P; Q; R; S; T; W; X; Y

Sommario/riassunto

A significantly revised and improved introduction to a critical aspect of scientific computationMatrix computations lie at the heart of most scientific computational tasks. For any scientist or engineer doing large-scale simulations, an understanding of the topic is essential. Fundamentals of Matrix Computations, Second Edition explains matrix computations and the accompanying theory clearly and in detail, along with useful insights.This Second Edition of a popular text has now been revised and improved to appeal to the needs of practicing scientists and graduate and advanced undergrad