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Nota di contenuto	Preface -- 1. Preliminaries -- 2. Vector Spaces -- 3. Inner Product Spaces -- 4. Linear Operators -- 5. Canonical Forms and Factorizations -- 6. Vector and Matrix Norms -- 7. Elements of the Perturbation Theory -- 8. Solving Systems of Linear Equations -- 9. Numerical solution of Linear Least Squares Problems -- 10. Algorithms for the Nonsymmetric Eigenvalue Problem -- 11. Algorithms for Solution of Symmetric Eigenvalue problem -- 12. Introduction to Iterative Methods for Solution of Linear Systems -- A. Matlab Programs -- References.
Sommario/riassunto	This book combines a solid theoretical background in linear algebra with practical algorithms for numerical solution of linear algebra problems. Developed from a number of courses taught repeatedly by the authors, the material covers topics like matrix algebra, theory for linear systems of equations, spectral theory, vector and matrix norms combined with main direct and iterative numerical methods, least squares problems, and eigen problems. Numerical algorithms illustrated by computer programs written in MATLAB® are also provided as supplementary material on SpringerLink to give the reader a better understanding of professional numerical software for the solution of real-life problems. Perfect for a one- or two-semester course on numerical linear algebra, matrix computation, and large sparse matrices, this text will interest students at the advanced undergraduate

or graduate level.

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