

1. Record Nr.	UNINA9910495350603321
Autore	Singh Arindama
Titolo	Introduction to matrix theory // Arindama Singh
Pubbl/distr/stampa	Cham, Switzerland : , : Springer, , [2021] ©2021
ISBN	3-030-80481-X
Edizione	[1st ed. 2021.]
Descrizione fisica	1 online resource (IX, 194 p. 2 illus., 1 illus. in color.)
Disciplina	512.9434
Soggetti	Matrices Matrius (Matemàtica) Àlgebra lineal Matemàtica per a enginyers Física matemàtica Llibres electrònics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Matrix Operations -- Systems of Linear Equations -- Matrix as a Linear Map -- Orthogonality -- Eigenvalues and Eigenvectors -- Canonical Forms -- Norms of Matrices -- Short Bibliography -- Index.
Sommario/riassunto	This book is designed to serve as a textbook for courses offered to undergraduate and postgraduate students enrolled in Mathematics. Using elementary row operations and Gram-Schmidt orthogonalization as basic tools the text develops characterization of equivalence and similarity, and various factorizations such as rank factorization, QR-factorization, Schurtriangularization, Diagonalization of normal matrices, Jordan decomposition, singular value decomposition, and polar decomposition. Along with Gauss-Jordan elimination for linear systems, it also discusses best approximations and least-squares solutions. The book includes norms on matrices as a means to deal with iterative solutions of linear systems and exponential of a matrix. The topics in the book are dealt with in a lively manner. Each section of the book has exercises to reinforce the concepts, and problems have been added at the end of each chapter. Most of these problems are theoretical, and they do not fit into the running text linearly. The

detailed coverage and pedagogical tools make this an ideal textbook for students and researchers enrolled in senior undergraduate and beginning postgraduate mathematics courses.

---