

1. Record Nr.	UNINA9910644262603321
Autore	Shapira Yair <1960->
Titolo	Linear Algebra and Group Theory for Physicists and Engineers // by Yair Shapira
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Birkhäuser, , 2023
ISBN	9783031224225 9783031224218
Edizione	[2nd ed. 2023.]
Descrizione fisica	1 online resource (583 pages)
Disciplina	512.2 512
Soggetti	Algebras, Linear Mathematical physics Group theory Numerical analysis Computer science—Mathematics Linear Algebra Mathematical Physics Group Theory and Generalizations Numerical Analysis Mathematical Applications in Computer Science Àlgebra lineal Teoria de grups Llibres electrònics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Part I: Introduction to Linear Algebra -- Vectors and Matrices -- Determinant and Vector Product in Physics -- Markov Matrix and its Spectrum: Towards Search Engines -- Special Relativity: Algebraic Point of View -- Part II: Introduction to Group Theory -- Groups and Isomorphism Theorems -- Projective Geometry in Computer Graphics -- Quantum Mechanics: Algebraic Point of View -- Part III: Polynomials and Basis Functions -- Polynomials and Their Gradient -- Basis

Functions: Barycentric Coordinates in 3D -- Part IV: Finite Elements in 3-D. - Automatic Mesh Generation -- Mesh Regularity -- Numerical Integration -- Spline: Variational Model in 3D -- Part V: Permutation Group in Quantum Chemistry -- Determinant and Electronic Structure -- Part VI: The Jordan Form -- The Jordan Form -- Jordan Decomposition -- Algebras and their Derivation -- Part VII: Linearization in Numerical Relativity -- Einstein Equations and their Linearization.

Sommario/riassunto

This textbook demonstrates the strong interconnections between linear algebra and group theory by presenting them simultaneously, a pedagogical strategy ideal for an interdisciplinary audience. Being approached together at the same time, these two topics complete one another, allowing students to attain a deeper understanding of both subjects. The opening chapters introduce linear algebra with applications to mechanics and statistics, followed by group theory with applications to projective geometry. Then, high-order finite elements are presented to design a regular mesh and assemble the stiffness and mass matrices in advanced applications in quantum chemistry and general relativity. This text is ideal for undergraduates majoring in engineering, physics, chemistry, computer science, or applied mathematics. It is mostly self-contained—readers should only be familiar with elementary calculus. There are numerous exercises, with hints or full solutions provided. A series of roadmaps are also provided to help instructors choose the optimal teaching approach for their discipline. The second edition has been revised and updated throughout and includes new material on the Jordan form, the Hermitian matrix and its eigenbasis, and applications in numerical relativity and electromagnetics. .

2. Record Nr.	UNINA9910983315003321
Autore	Chung Kai-Min
Titolo	Advances in Cryptology – ASIACRYPT 2024 : 30th International Conference on the Theory and Application of Cryptology and Information Security, Kolkata, India, December 9–13, 2024, Proceedings. Part VIII // edited by Kai-Min Chung, Yu Sasaki
Pubbl/distr/stampa	Singapore : , : Springer Nature Singapore : , : Imprint : Springer, , 2025
ISBN	9789819609444 9819609445
Edizione	[1st ed. 2025.]
Descrizione fisica	1 online resource (445 pages)
Collana	Lecture Notes in Computer Science, , 1611-3349 ; ; 15491
Altri autori (Persone)	SasakiYu
Disciplina	005.824
Soggetti	Cryptography Data encryption (Computer science) Computer networks Application software Data protection Computer networks - Security measures Cryptology Computer Communication Networks Computer and Information Systems Applications Security Services Mobile and Network Security
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Cryptanalysis on Public-Key Schemes -- Fault Attacks and Side-Channel Analysis -- Cryptanalysis on Various Problems -- Quantum Cryptanalysis.
Sommario/riassunto	The 9 volume set LNCS 15484-15492 constitutes the refereed proceedings of the 30th International Conference on the Theory and Application of Cryptology and Information Security, ASIACRYPT 2024, which took place in Kolkata, India, during December 9–13, 2024. The 127 full papers included in the proceedings were carefully reviewed and selected from 433 submissions. They were organized in topical

sections as follows: Advances Primitives; homomorphic encryption; digital signatures; public-key cryptography; pairing-based cryptography, threshold cryptography; isogeny-based cryptography; post-quantum cryptography; secure data structures; lattice-based cryptography; lattice assumptions; key exchange protocols; succinct arguments; verifiable computation, zero-knowledge protocols; secure multiparty computation; blockchain protocols; information theoretic cryptography; secret sharing; security against physical attacks; cryptanalysis on symmetric-key schemes; cryptanalysis on public-key schemes; fault attacks and side-channel analysis; cryptanalysis on various problems; quantum cryptanalysis; quantum cryptography; symmetric-key cryptography.
