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Narosa Publishing House, 2012. Softcover. Book Condition: New. 5th or later edition. The theory of vector spaces and matrices is an essential part of the mathematical background required by physicists. This book is written primarily as a text for the undergraduate and postgraduate students and as a reference for physicists. Special emphasis is given to topics relevant to physics, e.g., linear independence and dependence of vectors, inner product, orthonormality, matrices as representations of linear transformations on vector spaces, similarity, eigenvalues, eigenvectors and diagonalization of matrices etc. The role of orthogonal, Hermitian and unitary matrices in physics is highlighted. A large number of solved problems and exercises, with enough hints/solutions, are provided to make the book self sufficient. Key Features NEW TO THE SECOND EDITION: Modification / alterations made at various places (especially in the theory of inner product) Certain concepts, e.g., Bessel's inequality, Parseval's identity, kernel of a transformation, unitary transformation etc., incorporated Thirty new solved problems/exercises Appendices and useful references including Hilbert space, postulates of quantum mechanics, Pauli spin matrices, rotation matrix, multiplication of matrices by partitioning and direct sum of matrices added at the end. Table of Contents Foreword / Preface to the Second Edition / Preface to the First Edition / Introduction / Vector Spaces/ Linear Transformations / Basic Matrix Algebra and Special Matrices / Rank of a Matrix / Systems of Linear Equations / Matrices and Linear Transformations / Eigenvalues and Eigenvectors of a Matrix / Caley-Hamilton Theorem: Minimal Polynomial of a Matrix / Functions of a Matrix / Bilinear, Quadratic, Hermitian and Skew-Hermitian Forms / Appendix A ? F / Bibliography / Answers/Hints to Exercises / Index. Printed Pages: 232.



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