

1. Record Nr.	UNINA9911007077603321
Autore	Kraut Edgar A
Titolo	Fundamentals of Mathematical Physics
Pubbl/distr/stampa	Newburyport, : Dover Publications, 2013
ISBN	0-486-13160-2 1-62198-611-X
Edizione	[1st ed.]
Descrizione fisica	1 online resource (1001 p.)
Collana	Dover Books on Physics
Disciplina	530.15
Soggetti	Mathematical physics Engineering & Applied Sciences Applied Physics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di contenuto	Title Page; Copyright Page; preface; errata; Table of Contents; CHAPTER ONE - vector algebra; INTRODUCTION; 1-1 DEFINITIONS; 1-2 EQUALITY OF VECTORS AND NULL VECTORS; 1-3 VECTOR OPERATIONS; 1-4 EXPANSION OF VECTORS; 1-5 VECTOR IDENTITIES; 1-6 PROBLEMS AND APPLICATIONS; CHAPTER TWO - matrix and tensor algebra; 2-1 DEFINITIONS; 2-2 EQUALITY OF MATRICES AND NULL MATRICES; 2-3 MATRIX OPERATIONS; 2-4 DETERMINANTS; 2-5 SPECIAL MATRICES; 2-6 SYSTEMS OF LINEAR EQUATIONS; 2-7 LINEAR OPERATORS; 2-8 EIGENVALUE PROBLEMS; 2-9 DIAGONALIZATION OF MATRICES; 2-10 SPECIAL PROPERTIES OF HERMITIAN MATRICES 2-11 TENSOR ALGEBRA 2-12 TENSOR OPERATIONS; 2-13 TRANSFORMATION PROPERTIES OF TENSORS; 2-14 SPECIAL TENSORS; 2-15 PROBLEMS AND APPLICATIONS; CHAPTER THREE - vector calculus; 3-1 ORDINARY VECTOR DIFFERENTIATION; 3-2 PARTIAL VECTOR DIFFERENTIATION; 3-3 VECTOR OPERATIONS IN CYLINDRICAL AND SPHERICAL COORDINATE SYSTEMS; 3-4 DIFFERENTIAL VECTOR IDENTITIES; 3-5 VECTOR INTEGRATION OVER A CLOSED SURFACE; 3-6 THE DIVERGENCE THEOREM; 3-7 THE GRADIENT THEOREM; 3-8 THE CURL THEOREM; 3-9 VECTOR INTEGRATION OVER A CLOSED CURVE; 3-10 THE TWO-DIMENSIONAL DIVERGENCE THEOREM 3-11 THE TWO-DIMENSIONAL GRADIENT THEOREM 3-12 THE TWO-

DIMENSIONAL CURL THEOREM; 3-13 MNEMONIC OPERATORS; 3-14  
 KINEMATICS OF INFINITESIMAL VOLUME, SURFACE, AND LINE ELEMENTS;  
 3-15 KINEMATICS OF A VOLUME INTEGRAL; 3-16 KINEMATICS OF A  
 SURFACE INTEGRAL; 3-17 KINEMATICS OF A LINE INTEGRAL; 3-18  
 SOLID ANGLE; 3-19 DECOMPOSITION OF A VECTOR FIELD INTO  
 SOLENOIDAL AND IRROTATIONAL PARTS; 3-20 INTEGRAL THEOREMS  
 FOR DISCONTINUOUS AND UNBOUNDED FUNCTIONS; 3-21 PROBLEMS  
 AND APPLICATIONS; CHAPTER FOUR - functions of a complex variable;  
 4-1 INTRODUCTION; 4-2 DEFINITIONS; 4-3 COMPLEX ALGEBRA  
 4-4 DOMAIN OF CONVERGENCE 4-5 ANALYTIC FUNCTIONS; 4-6  
 CAUCHY'S APPROACH; 4-7 CAUCHY'S INTEGRAL THEOREM; 4-8  
 CAUCHY'S INTEGRAL REPRESENTATION OF AN ANALYTIC FUNCTION  
 THEOREM.; 4-9 TAYLOR'S SERIES; 4-10 CAUCHY'S INEQUALITIES; 4-11  
 ENTIRE FUNCTIONS; 4-12 RIEMANN'S THEORY OF FUNCTIONS OF A  
 COMPLEX VARIABLE; 4-13 PHYSICAL INTERPRETATION; 4-14  
 FUNCTIONS DEFINED ON CURVED SURFACES; 4-15 LAURENT'S SERIES;  
 4-16 SINGULARITIES OF AN ANALYTIC FUNCTION; 4-17 MULTIVALUED  
 FUNCTIONS; 4-18 RESIDUES; 4-19 RESIDUE AT INFINITY; 4-20  
 GENERALIZED RESIDUE THEOREM OF CAUCHY; 4-21 PROBLEMS AND  
 APPLICATIONS  
 CHAPTER FIVE - integral transforms 5-1 INTRODUCTION; 5-2  
 ORTHOGONAL FUNCTIONS; 5-3 DIRAC'S NOTATION; 5-4 ANALOGY  
 BETWEEN EXPANSION IN ORTHOGONAL FUNCTIONS AND EXPANSION IN  
 ORTHOGONAL VECTORS; 5-5 LINEAR INDEPENDENCE OF FUNCTIONS;  
 5-6 MEAN-SQUARE CONVERGENCE OF AN EXPANSION IN ORTHOGONAL  
 FUNCTIONS; 5-7 INTEGRATION AND DIFFERENTIATION OF  
 ORTHOGONAL EXPANSIONS; 5-8 POINTWISE CONVERGENCE OF AN  
 ORTHOGONAL EXPANSION; 5-9 GIBBS'S PHENOMENON; 5-10 THE  
 FINITE SINE TRANSFORM; 5-11 THE FINITE COSINE TRANSFORM; 5-12  
 PROPERTIES OF FINITE FOURIER TRANSFORMS  
 5-13 CONNECTION WITH CLASSICAL THEORY OF FOURIER SERIES

---

Sommario/riassunto

Indispensable for students of modern physics, this text provides the  
 necessary background in mathematics for the study of electromagnetic  
 theory and quantum mechanics. Clear discussions explain the  
 particulars of vector algebra, matrix and tensor algebra, vector  
 calculus, functions of a complex variable, integral transforms, linear  
 differential equations, and partial differential equations. This volume  
 collects under one cover the mathematical ideas formerly available only  
 by taking many separate courses. It offers in-depth treatments, with a  
 minimum of mathematical formalism. Suitable for stu

---

2. Record Nr.	UNINA9910584579303321
Titolo	Compas d'amalgama
Pubbl/distr/stampa	Barcelona, : Edicions de la Universitat de Barcelona, 2019-
ISSN	2696-1008
Descrizione fisica	1 online resource
Disciplina	306
Soggetti	Culture Humanities Humanites Cultura Humanidades Periodicals
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Periodico
Note generali	At head of title: Revista de cultura contemporanea