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List of File tools for statistical inference methods for the exploration of posterior distributions and likelihood functions springer series in statistics

Numerical Methods Based on Sinc and Analytic Functions

2012-12-06

MANY MATHEMATICIANS SCIENTISTS AND ENGINEERS ARE FAMILIAR WITH THE FAST FOURIER TRANSFORM A METHOD BASED UPON THE DISCRETE FOURIER TRANSFORM PERHAPS NOT SO MANY MATHEMATICIANS SCIENTISTS AND ENGINEERS RECOGNIZE THAT THE DISCRETE FOURIER TRANSFORM IS ONE OF A FAMILY OF SYMBOLIC FORMULAE CALLED SINC METHODS SINC METHODS ARE BASED UPON THE SINC FUNCTION A WAVELET LIKE FUNCTION REPLETE WITH IDENTITIES WHICH YIELD APPROXIMATIONS TO ALL CLASSES OF COMPUTATIONAL PROBLEMS SUCH PROBLEMS INCLUDE PROBLEMS OVER FINITE SEMI INFINITE OR INFINITE DOMAINS PROBLEMS WITH SINGULARITIES AND BOUNDARY LAYER PROBLEMS WRITTEN BY THE PRINCIPLE AUTHORITY ON THE SUBJECT THIS BOOK INTRODUCES SINC METHODS TO THE WORLD OF COMPUTATION IT SERVES AS AN EXCELLENT RESEARCH SOURCEBOOK AS WELL AS A TEXTBOOK WHICH USES ANALYTIC FUNCTIONS TO DERIVE SINC METHODS FOR THE ADVANCED NUMERICAL ANALYSIS AND APPLIED APPROXIMATION THEORY CLASSROOMS PROBLEM SECTIONS AND HISTORICAL NOTES ARE INCLUDED

From Divergent Power Series to Analytic Functions

2006-11-15

MULTISUMMABILITY IS A METHOD WHICH FOR CERTAIN FORMAL POWER SERIES WITH RADIUS OF CONVERGENCE EQUAL TO ZERO PRODUCES AN ANALYTIC FUNCTION HAVING THE FORMAL SERIES AS ITS ASYMPTOTIC EXPANSION THIS BOOK PRESENTS THE THEORY OF MULTISUMMABI LITY AND AS AN APPLICATION CONTAINS A PROOF OF THE FACT THAT ALL FORMAL POWER SERIES SOLUTIONS OF NON LINEAR MEROMORPHIC ODE ARE MULTISUMMABLE IT WILL BE OF USE TO GRADUATE STUDENTS AND RESEARCHERS IN MATHEMATICS AND THEORETICAL PHYSICS AND ESPECIALLY TO THOSE WHO ENCOUNTER FORMAL POWER SERIES TO PHYSICAL EQUATIONS WITH RAPIDLY BUT REGULARLY GROWING COEFFICIENTS

Analytic Functions

2013-12-20

THE PRESENT MONOGRAPH ON ANALYTIC FUNCTIONS COINCIDES TO A LAR EXTENT WITH THE PRESENTATION OF THE MODERN THEORY OF SINGLE VALUE ANALYTIC FUNCTIONS GIVEN IN MY EARLIER WORKS LE THEOREME DE PICARC BOREL ET LA THEORIE DES FONCTIONS MEROMORPHES PARIS GAUTHIER VILLAR 1929 AND EINDEUTIGE ANALYTISCHE FUNKTIONEN DIE GRUNDLEHREN DT MATHEMATISCHEN WISSENSCHAFTEN IN EINZELDARSTELLUNGEN VOL 46 1 EDITION BERLIN SPRINGER 1936 2ND EDITION BERLIN GOTTINGEN HEIDELBERG SPRINGER 1953 IN THESE PRESENTATIONS I HAVE STRIVED TO MAKE THE INDIVIDUAL RESULT AND THEIR PROOFS READILY UNDERSTANDABLE AND TO TREAT THEM IN THE LIGH OF CERTAIN GUIDING PRINCIPLES IN A UNIFIED WAY A DECISIVE STEP IN THI DIRECTION WITHIN THE THEORY OF ENTIRE AND MEROMORPHIC FUNCTIONS CONSISTE IN REPLACING THE CLASSICAL REPRESENTATION OF THESE FUNCTIONS THROUGH CA NONICAL PRODUCTS WITH MORE GENERAL TOOLS FROM THE POTENTIAL THEOR GREEN S FORMULA AND ESPECIALLY THE POISSON JENSEN FORMULA ON THI FOUNDATION IT WAS POSSIBLE TO INTRODUCE THE QUANTITIES THE CHARACTERISTIC THE PROXIMITY AND THE COUNTING FUNCTIONS WHICH ARE DEFINITIVE FOR TH

Modular Functions and Dirichlet Series in Number Theory

2012-12-06

A NEW EDITION OF A CLASSICAL TREATMENT OF ELLIPTIC AND MODULAR FUNCTIONS WITH SOME OF THEIR NUMBER THEORETIC APPLICATIONS THIS TEXT OFFERS AN UPDATED BIBLIOGRAPHY AND AN ALTERNATIVE TREATMENT OF THE TRANSFORMATION FORMULA FOR THE DEDEKIND ETA FUNCTION IT COVERS MANY TOPICS SUCH AS HECKE S THEORY OF ENTIRE FORMS WITH MULTIPLICATIVE FOURIER COEFFICIENTS AND THE LAST CHAPTER RECOUNTS BOHR S THEORY OF EQUIVALENCE OF GENERAL DIRICHLET SERIES

Theta Functions

2012-12-06

THE THEORY OF THETA FUNCTIONS HAS A LONG HISTORY FOR THIS WE REFER A KRAZER AND W WIRTINGER THE READER TO AN ENCYCLOPEDIA ARTICLE BY SOURCES 9 WE SHALL RESTRICT OURSELVES TO POSTWAR I E AFTER 1945 PERIODS AROUND 1948 49 F CONFORTO C L SIEGEL A WELL RECONSIDERED THE MAIN EXISTENCE THEOREMS OF THETA FUNCTIONS AND FOUND NATURAL PROOFS FOR THEM THESE ARE CONTAINED IN CONFORTO ABELSCHE FUNKTIONEN UND ALGEBRAISCHE GEOMETRIE SPRINGER 1956 SIEGEL ANALYTIC FUNCTIONS OF SEVERAL COMPLEX VARIABLES LECT NOTES I A S 1948 49 WELL THEOREMES FONDAMENTAUX DE LA THEORIE DES FONCTIONS THETA SEM BOURBAKI NO 16 1949 THE COMPLETE ACCOUNT OF WEIL S METHOD APPEARED IN HIS BOOK OF 1958 20 THE NEXT IMPORTANT ACHIEVEMENT WAS THE THEORY OF COMPACTI FICATION OF THE QUOTIENT VARIETY OF SIEGEL S UPPER HALF SPACE BY A MODULAR GROUP THERE ARE MANY WAYS TO COMPACTIFY THE QUOTIENT VARIETY WE ARE TALKING ABOUT WHAT MIGHT BE CALLED A STANDARD COMPACTIFICATION SUCH A COMPACTIFICATION WAS OBTAINED FIRST AS A HAUSDORFF SPACE BY I SATAKE IN ON THE COMPACTIFICATION OF THE SIEGEL SPACE J IND MATH SOC 20 259 281 1956 AND AS A NORMAL PROJECTIVE VARIETY BY W L BAILY IN 1958 1 IN 1957 58 H CARTAN TOOK UP THIS THEORY IN HIS SEMINAR 3 IT WAS SHOWN THAT THE GRADED RING OF MODULAR FORMS RELATIVE TO THE GIVEN MODULAR GROUP IS A NORMAL INTEGRAL DOMAIN WHICH IS FINITELY GENERATED OVER C

Elliptic Functions According to Eisenstein and Kronecker

1999

DRAWN FROM THE FOREWORD ON THE OTHER HAND SINCE MUCH OF THE MATERIAL IN THIS VOLUME SEEMS SUITABLE FOR INCLUSION IN ELEMENTARY COURSES IT MAY NOT BE SUPERFLUOUS TO POINT OUT THAT IT IS ALMOST ENTIRELY SELF CONTAINED EVEN THE BASIC FACTS ABOUT TRIGONOMETRIC FUNCTIONS ARE TREATED AB INITIO IN CH II ACCORDING TO EISENSTEIN S METHOD IT WOULD HAVE BEEN BOTH LOGICAL AND CONVENIENT TO TREAT THE GAMMA FUNCTION SIMILARLY IN CH VII FOR THE SAKE OF BREVITY THIS HAS NOT BEEN DONE AND A KNOWLEDGE OF SOME ELEMENTARY PROPERTIES OF T S HAS BEEN ASSUMED ONE FURTHER PREREQUISITE IN PART II IS DIRICHLET S THEOREM ON FOURIER SERIES TOGETHER WITH THE METHOD OF POISSON SUMMATION WHICH IS ONLY A SPECIAL CASE OF THAT THEOREM IN THE CASE UNDER CONSIDERATION ESSENTIALLY NO MORE THAN THE TRANSFORMATION FORMULA FOR THE THETA FUNCTION THIS PRESUPPOSES THE CALCULATION OF SOME CLASSICAL INTEGRALS AS TO THE FINAL CHAPTER IT CONCERNS APPLICATIONS TO NUMBER THEORY

Minimization Methods for Non-Differentiable Functions

2012-12-06

IN RECENT YEARS MUCH ATTENTION HAS BEEN GIVEN TO THE DEVELOPMENT OF AUTO MATIC SYSTEMS OF PLANNING DESIGN AND CONTROL IN VARIOUS BRANCHES OF THE NATIONAL ECONOMY QUALITY OF DECISIONS IS AN ISSUE WHICH HAS COME TO THE FOREFRONT INCREASING THE SIGNIFICANCE OF OPTIMIZATION ALGORITHMS IN MATH EMATICAL SOFTWARE PACKAGES FOR AL LTOMATIC SYSTEMS OF VARIOUS LEVELS AND PUR POSES METHODS FOR MINIMIZING FUNCTIONS WITH DISCONTINUOUS GRADIENTS ARE GAINING IN IMPORTANCE AND THE XPERTS IN THE COMPUTATIONAL METHODS OF MATHEMATICAL PROGRAMMING TEND TO AGREE THAT PROGRESS IN THE DEVELOPMENT OF ALGORITHMS FOR MINIMIZING NONSMOOTH FUNCTIONS IS THE KEY TO THE CON STRUCTION OF EFFICIENT TECHNIQUES FOR SOLVING LARGE SCALE PROBLEMS THIS MONOGRAPH SUMMARIZES TO A CERTAIN EXTENT FIFTEEN YEARS OF THE AUTHOR S WORK ON DEVELOPING GENERALIZED GRADIENT METHODS FOR NONSMOOTH MINIMIZATION THIS WORK STARTED IN THE DEPARTMENT OF ECONOMIC CYBERNETICS OF THE INSTITUTE OF CYBERNETICS OF THE UKRAINIAN ACADEMY OF SCIENCES UNDER THE SUPERVISION OF V S MIKHALEVICH A MEMBER OF THE UKRAINIAN ACADEMY OF SCIENCES IN CONNECTION WITH THE NEED FOR SOLUTIONS TO IMPORTANT PRACTICAL PROBLEMS OF OPTIMAL PLANNING AND DESIGN IN CHAP I WE DESCRIBE BASIC CLASSES OF NONSMOOTH FUNCTIONS THAT ARE DIF FERENTIABLE ALMOST EVERYWHERE AND ANALYZE VARIOUS WAYS OF DEFINING GENERALIZED GRADIENT SETS IN CHAP 2 WE STUDY IN DETAIL VARIOUS VERSIONS OF THE SU BGRADIENT METHOD SHOW THEIR RELATION TO THE METHODS OF FEJER TYPE APPROXIMATIONS AND BRIEFLY PRESENT THE FUNDAMENTALS OF E SUBGRADIENT METHODS

Problems and Theorems in Analysis

2013-04-17

THE PRESENT ENGLISH EDITION IS NOT A MERE TRANSLATION OF THE GERMAN ORIGINAL MANY NEW PROBLEMS HAVE BEEN ADDED AND THERE ARE ALSO OTHER CHANGES MOSTLY MINOR YET ALL THE ALTERATIONS AMOUNT TO LESS THAN TEN PERCENT OF THE TEXT WE INTENDED TO KEEP INTACT THE GENERAL PLAN AND THE ORIGINAL FLAVOR OF THE WORK THUS WE HAVE NOT INTRODUCED ANY ESSENTIALLY NEW SUBJECT MATTER ALTHOUGH THE MATHEMATICAL FASHION HAS GREATLY CHANGED SINCE 1924 WE HAVE RESTRICTED OURSELVES TO SUPPLEMENTING THE TOPICS ORIGINALLY CHOSEN SOME OF OUR PROBLEMS FIRST PUBLISHED IN THIS WORK HAVE GIVEN RISE TO EXTENSIVE RESEARCH TO INCLUDE ALL SUCH DEVELOPMENTS WOULD HAVE CHANGED THE CHARACTER OF THE WORK AND EVEN AN INCOMPLETE ACCOUNT WHICH WOULD BE UNSATISFACTORY IN ITSELF WOULD HAVE COST TOO MUCH LABOR AND TAKEN UP TOO MUCH SPACE WE HAVE TO THANK MANY READERS WHO SINCE THE PUBLICATION OF THIS WORK ALMOST FIFTY YEARS AGO COMMUNICATED TO US VARIOUS REMARKS ON IT SOME OF WHICH HAVE BEEN INCORPORATED INTO THIS EDITION WE HAVE NOT LISTED THEIR NAMES WE HAVE FORGOTTEN THE ORIGIN OF SOME CONTRIBUTIONS AND AN INCOMPLETE LIST WOULD HAVE BEEN EVEN LESS DESIRABLE THAN NO LIST THE FIRST VOLUME HAS BEEN TRANSLATED BY MRS DOROTHEE AEPPLI THE SECOND VOLUME BY PROFESSOR CLAUDE BILLIGHEIMER WE WISH TO EXPRESS OUR WARMEST THANKS TO BOTH FOR THE UNSELFISH DEVOTION AND SCRUPULOUS CONSCIENTIOUSNESS WITH WHICH THEY ATTACKED THEIR FAR FROM EASY TASK

Regularly Varying Functions

2006-11-14

THIS BOOK IS AN ACCOUNT OF THE THEORY OF HARDY SPACES IN ONE DIMENSION WITH EMPHASIS ON SOME OF THE EXCITING DEVELOPMENTS OF THE PAST TWO DECADES OR SO THE LAST SEVEN OF THE TEN CHAPTERS ARE DEVOTED IN THE MAIN TO THESE RECENT DEVELOPMENTS THE MOTIF OF THE THEORY OF HARDY SPACES IS THE INTERPLAY BETWEEN REAL COMPLEX AND ABSTRACT ANALYSIS WHILE PAYING PROPER ATTENTION TO EACH OF THE THREE ASPECTS THE AUTHOR HAS UNDERSCORED THE EFFECTIVENESS OF THE METHODS COMING FROM REAL ANALYSIS MANY OF THEM DEVELOPED AS PART OF A PROGRAM TO EXTEND THE THEORY TO EUCLIDEAN SPACES WHERE THE COMPLEX METHODS ARE NOT AVAILABLE

Bounded Analytic Functions

2007-04-05

IN THIS EDITION THE SECOND AND MAIN PART OF THE BOOK HAS BEEN CONSIDERABLY EXPANDED AS TO COVER IMPORTANT APPLICATIONS OF THE FORMALISM IN CHAP 5 A SECTION WAS ADDED OUTLINING THE EXTENSIVE ROLE OF THE TIGHT BINDING OR EQUIVALENTLY THE LINEAR COMBINATION OF ATOMIC LIKE ORBITALS APPROACH TO MANY BRANCHES OF SOLID STATE PHYSICS SOME ADDITIONAL INFORMA TION INCLUDING A TABLE OF NUMERICAL VALUES REGARDING SQUARE AND CUBIC LATTICE GREEN S FUNCTIONS WERE INCORPORATED IN CHAP 6 THE DIFFICULT SUBJECTS OF SUPERCONDUCTIVITY AND THE KONDO EFFECT ARE EXAMINED BY EMPLOYING AN APPEALINGLY SIMPLE CONNECTION TO THE QUESTION OF THE EXISTENCE OF A BOUND STATE IN A VERY SHALLOW POTENTIAL WELL THE EXISTENCE OF SUCH A BOUND STATE DEPENDS ENTIRELY ON THE FORM OF THE UN PERTURBED DENSITY OF STATES NEAR THE END OF THE SPECTRUM IF THE DENSITY OF STATES BLOWS UP THERE IS ALWAYS AT LEAST ONE BOUND STATE IF THE DENSITY OF STATES APPROACHES ZERO CONTINUOUSLY A CRITICAL DEPTH AND OR WIDTH OF THE WELL MUST BE REACHED IN ORDER TO HAVE A BOUND STATE THE BORDERLINE CASE OF A FINITE DISCONTINUITY WHICH IS VERY IMPORTANT TO SUPERCONDUCTIVITY AND THE KONDO EFFECT ALWAYS PRODUCES A BOUND STATE WITH AN EXPONENTIALLY SMALL BINDING ENERGY

Green's Functions in Quantum Physics

2013-03-14

THIS TEXTBOOK EXPLORES A SELECTION OF TOPICS IN COMPLEX ANALYSIS FROM CORE MATERIAL IN THE MAINSTREAM OF COMPLEX ANALYSIS ITSELF TO TOOLS THAT ARE WIDELY USED IN OTHER AREAS OF MATHEMATICS THIS VERSATILE COMPILATION OFFERS A SELECTION OF MANY DIFFERENT PATHS READERS INTERESTED IN COMPLEX ANALYSIS WILL APPRECIATE THE UNIQUE COMBINATION OF TOPICS AND CONNECTIONS COLLECTED IN THIS BOOK BEGINNING WITH A REVIEW OF THE MAIN TOOLS OF COMPLEX ANALYSIS HARMONIC ANALYSIS AND FUNCTIONAL ANALYSIS THE AUTHORS GO ON TO PRESENT MULTIPLE DIFFERENT SELF CONTAINED AVENUES TO PROCEED CHAPTERS ON LINEAR FRACTIONAL TRANSFORMATIONS HARMONIC FUNCTIONS AND ELLIPTIC FUNCTIONS OFFER PATHWAYS TO HYPERBOLIC GEOMETRY AUTOMORPHIC FUNCTIONS AND AN INTUITIVE INTRODUCTION TO THE SCHWARZIAN DERIVATIVE THE GAMMA BETA AND ZETA FUNCTIONS LEAD INTO L FUNCTIONS WHILE A CHAPTER ON ENTIRE FUNCTIONS OPENS PATHWAYS TO THE RIEMANN HYPOTHESIS AND NEVANLINNA THEORY CAUCHY TRANSFORMS GIVE RISE TO HILBERT AND FOURIER TRANSFORMS WITH AN EMPHASIS ON THE CONNECTION TO COMPLEX ANALYSIS VALUABLE ADDITIONAL TOPICS INCLUDE RIEMANN SURFACES STEEPEST DESCENT TAUBERIAN THEOREMS AND THE WIENER HOPF METHOD SHOWCASING AN ARRAY OF ACCESSIBLE EXCURSIONS EXPLORATIONS IN COMPLEX FUNCTIONS IS AN IDEAL COMPANION FOR GRADUATE STUDENTS AND RESEARCHERS IN ANALYSIS AND NUMBER THEORY INSTRUCTORS WILL APPRECIATE THE MANY OPTIONS FOR CONSTRUCTING A SECOND COURSE IN COMPLEX ANALYSIS THAT BUILDS ON A FIRST COURSE PREREQUISITE EXERCISES COMPLEMENT THE RESULTS THROUGHOUT

Explorations in Complex Functions

2020-10-19

This book covers the construction analysis and theory of continuous nowhere differentiable functions comprehensively and accessibly after illuminating the significance of the subject through an overview of its history the reader is introduced to the sophisticated toolkit of ideas and tricks used to study the explicit continuous nowhere differentiable functions of Weierstrass Takagi van der Waerden Bolzano and others modern tools of functional analysis measure theory and Fourier analysis are applied to examine the generic nature of continuous nowhere differentiable functions as well as linear structures within the nonlinear space of continuous nowhere differentiable functions to round out the presentation advanced techniques from several areas of mathematics are brought together to give a state of the art analysis of Riemann s continuous and purportedly nowhere differentiable function for the reader s benefit claims requiring elaboration and open problems are clearly indicated an appendix conveniently provides background material from analysis and number theory and comprehensive indices of symbols problems and figures enhance the book s utility as a reference work students and researchers of analysis will value this unique book as a self contained guide to the subject and its methods

Continuous Nowhere Differentiable Functions

2015-12-30

This brief provides an elementary introduction to the theory of piecewise differentiable functions with an emphasis on differentiable equations in the first chapter two sample problems are used to motivate the study of this theory the presentation is then developed using two basic tools for the analysis of piecewise differentiable functions the Bouligand derivative as the nonsmooth analogue of the classical derivative concept and the theory of piecewise affine functions as the combinatorial tool for the study of this approximation function in the end the results are combined to develop inverse and implicit function theorems for piecewise differentiable equations this introduction to piecewise differentiable equations will serve graduate students and researchers alike the reader is assumed to be familiar with basic mathematical analysis and to have some familiarity with polyhedral theory

Univalent Functions

2001-07-02

This book presents a geometric theory of complex analytic integrals representing hypergeometric functions of several variables starting from an integrand which is a product of powers of polynomials integrals are explained in an open affine space as a pair of twisted de Rham cohomology and its dual over the coefficients of local system it is shown that hypergeometric integrals generally satisfy a holonomic system of linear differential equations with respect to the coefficients of polynomials and also satisfy a holonomic system of linear difference equations with respect to the exponents these are deduced from Grothendieck Deligne s rational de Rham cohomology on the one hand and by multidimensional extension of Birkhoff s

CLASSICAL THEORY ON ANALYTIC DIFFERENCE EQUATIONS ON THE OTHER

Introduction to Piecewise Differentiable Equations

2012-08-01

THIS IS A NEW AND ENLARGED ENGLISH EDITION OF THE BOOK WHICH UNDER THE TITLE FORMELN UND SATZE FUR DIE SPEZIELLEN FUNKTIONEN DER MATHE MATISCHEN PHYSIK APPEARED IN GERMAN IN 1946 MUCH OF THE MATERIAL PART OF IT UNPUBLISHED DID NOT APPEAR IN THE EARLIER EDITIONS WE HOPE THAT THESE ADDITIONS WILL BE USEFUL AND YET NOT TOO NUMEROUS FOR THE PURPOSE OF LOCATING WITH EASE ANY PARTICULAR RESULT COMPARED TO THE FIRST TWO GERMAN EDITIONS A CHANGE HAS TAKEN PLACE AS FAR AS THE LIST OF REFERENCES IS CONCERNED THEY ARE GENERALLY RESTRICTED TO BOOKS AND MONOGRAPHS AND ACCOMODATED AT THE END OF EACH INDIVIDUAL CHAPTER OCCASIONAL REFERENCES TO PAPERS FOLLOW THOSE RESULTS TO WHICH THEY APPLY THE AUTHORS FELT A CERTAIN JUSTIFICATION FOR THIS CHANGE AT THE TIME OF THE APPEARANCE OF THE PREVIOUS EDITION NEARLY TWENTY YEARS AGO MUCH OF THE MATERIAL WAS SCATTERED OVER A NUMBER OF SINGLE CONTRIBUTIONS SINCE THEN MOST OF IT HAS BEEN INCLUDED IN BOOKS AND MONOGRAPHS WITH QUITE EXHAUSTIVE BIBLIOGRAPHIES FOR INFORMATION ABOUT NUMERICAL TABLES THE READER IS REFERRED TO MATHEMATICS OF COMPUTATION A PERIODICAL PUBLIS HED BY THE AMERICAN MATHEMATICAL SOCIETY HANDBOOK OF MATHE MATICAL FUNCTIONS WITH FORMULAS GRAPHS AND MATHEMATICAL TABLES NATIONAL BUREAU OF STANDARDS APPLIED MATHEMATICS SERIES 55 1964 1046 PP GOVERNMENT PRINTING OFFICE WASHINGTON D C AND FLETCHER MILLER ROSENHEAD INDEX OF MATHEMATICAL TABLES ADDISON WESLEY READING MASS THERE IS A LIST OF SYMBOLS AND ABBREVIATIONS AT THE END OF THE BOOK

Theory of Hypergeometric Functions

2011-05-21

THIS BOOK COMPRISES SOME OF THE LECTURE NOTES I DEVELOPED FOR VARIOUS ONE OR TWO SEMESTER COURSES I TAUGHT AT THE COLORADO SCHOOL OF MINES THE MAIN OBJECTIVE OF ALL THE COURSES WAS TO INTRODUCE STUDENTS TO THE MATHEMATICAL ASPECTS OF WAVE THEORY WITH A FOCUS ON THE SOLUTION OF SOME SPECIFIC FUNDAMENTAL PROBLEMS THESE FUNDAMENTAL SOLUTIONS WOULD THEN SERVE AS A BASIS FOR MORE COMPLEX WAVE PROPAGATION AND SCATTERING PROBLEMS ALTHOUGH THE COURSES WERE TAUGHT IN THE MATHEMATICS DEPARTMENT THE AUDIENCE WAS MAINLY NOT MATHEMATICIANS IT CONSISTED OF GRADU ATE SCIENCE AND ENGINEERING MAJORS WITH A VARIED BACKGROUND IN BOTH MATHEMATICS AND WAVE THEORY IN GENERAL I BELIEVED IT WAS NECESSARY TO START FROM FUNDAMENTAL PRINCIPLES OF BOTH ADVANCED APPLIED MATH EMATICS AS WELL AS WAVE THEORY AND TO DEVELOP THEM BOTH IN SOME DETAIL THE NOTES REFLECT THIS TYPE OF DEVELOPMENT AND I HAVE KEPT THIS DETAIL IN THE TEXT I BELIEVE IT ESSENTIAL IN TECHNICAL CAREERS TO SEE THIS DETAILED DEVELOPMENT AT LEAST ONCE THIS VOLUME CONSISTS OF FIVE CHAPTERS THE FIRST TWO ON SCALAR WAVE THEORY CHAPTER 1 AND GREEN S FUNCTIONS CHAPTER 2 ARE MAINLY MATHEMATICAL ALTHOUGH IN CHAPTER 1 THE WAVE EQUATION IS DERIVED FROM FUNDAMENTAL PHYSICAL PRINCIPLES MORE COMPLICATED PROBLEMS INVOLVING SPATIALLY AND EVEN TEMPORALLY VARYING MEDIA ARE BRIEFLY INTRODUCED

Formulas and Theorems for the Special Functions of Mathematical Physics

2013-11-11

EARLY IN THE DEVELOPMENT OF NUMBER THEORY IT WAS NOTICED THAT THE RING OF INTEGERS HAS MANY PROPERTIES IN COMMON WITH THE RING OF POLYNOMIALS OVER A FINITE FIELD THE FIRST PART OF THIS BOOK ILLUSTRATES THIS RELATIONSHIP BY PRESENTING ANALOGUES OF VARIOUS THEOREMS THE LATER CHAPTERS PROBE THE ANALOGY BETWEEN GLOBAL FUNCTION FIELDS AND ALGEBRAIC NUMBER FIELDS TOPICS INCLUDE THE ABC CONJECTURE BRUMER STARK CONJECTURE AND DRINFELD MODULES

Scalar Wave Theory

2012-12-06

THIS TEXTBOOK PROVIDES A THOROUGH YET ACCESSIBLE INTRODUCTION TO FUNCTION SPACES THROUGH THE CENTRAL CONCEPTS OF INTEGRABILITY WEAKLY DIFFERENTIABILITY AND FRACTIONALLY DIFFERENTIABILITY IN AN ESSENTIALLY SELF CONTAINED TREATMENT THE READER IS INTRODUCED TO LEBESGUE SOBOLEV AND BV SPACES BEFORE BEING GUIDED THROUGH VARIOUS GENERALISATIONS SUCH AS BESSEL POTENTIAL SPACES FRACTIONAL SOBOLEV SPACES AND BESOV SPACES WRITTEN WITH THE STUDENT IN MIND THE BOOK GRADUALLY PROCEEDS FROM ELEMENTARY PROPERTIES TO MORE ADVANCED TOPICS SUCH AS LOWER DIMENSIONAL TRACE EMBEDDINGS FINE PROPERTIES AND APPROXIMATE DIFFERENTIABILITY INCORPORATING RECENT APPROACHES THROUGHOUT THE AUTHORS PROVIDE CAREFUL MOTIVATION FOR THE UNDERLYING CONCEPTS WHICH THEY ILLUSTRATE WITH SELECTED APPLICATIONS FROM PARTIAL DIFFERENTIAL EQUATIONS DEMONSTRATING THE RELEVANCE AND PRACTICAL USE OF FUNCTION SPACES ASSUMING ONLY MULTIVARIABLE CALCULUS AND ELEMENTARY FUNCTIONAL ANALYSIS AS CONVENIENTLY SUMMARISED IN THE OPENING CHAPTERS A COURSE IN FUNCTION SPACES IS DESIGNED FOR LECTURE COURSES AT THE GRADUATE LEVEL AND WILL ALSO BE A VALUABLE COMPANION FOR YOUNG RESEARCHERS IN ANALYSIS

Number Theory in Function Fields

2013-04-18

THIS IS AN ADVANCED BOOK ON MODULAR FORMS WHILE THERE ARE MANY BOOKS PUBLISHED ABOUT MODULAR FORMS THEY ARE WRITTEN AT AN ELEMENTARY LEVEL AND NOT SO INTERESTING FROM THE VIEWPOINT OF A READER WHO ALREADY KNOWS THE BASICS THIS BOOK OFFERS SOMETHING NEW WHICH MAY SATISFY THE DESIRE OF SUCH A READER HOWEVER WE STATE EVERY DEFINITION AND EVERY ESSENTIAL FACT CONCERNING CLASSICAL MODULAR FORMS OF ONE VARIABLE ONE OF THE PRINCIPAL NEW FEATURES OF THIS BOOK IS THE THEORY OF MODULAR FORMS OF HALF INTEGRAL WEIGHT ANOTHER BEING THE DISCUSSION OF THETA FUNCTIONS AND EISENSTEIN SERIES OF HOLOMORPHIC AND NONHOLOMORPHIC TYPES THUS THE BOOK IS PRESENTED SO THAT THE READER CAN LEARN SUCH THEORIES SYSTEMATICALLY

Differentiation of Real Functions

2006-11-15

THIS BOOK PRESENTS A SURVEY OF MODERN THEORETICAL AND EXPERIMENTAL TECHNIQUES IN STUDIES OF LIGHT SCATTERING PHENOMENA AND RADIATIVE TRANSFER PROCESSES IN RANDOM MEDIA IT PRESENTS REVIEWS ON LIGHT SCATTERING BY SEA WATER AND BUBBLES AND INCLUDES A SEPARATE CHAPTER ADDRESSING STUDIES OF THE REMOTE SENSING OF CRYSTALLINE CLOUDS WITH A FOCUS ON THE SHAPE OF PARTICLES A PARAMETER RARELY STUDIED BY PASSIVE REMOTE SENSING TECHNIQUES IN PARTICULAR IT OFFERS A COMPREHENSIVE ANALYSIS OF POLARIZED RADIATIVE TRANSFER IN OPTICALLY ACTIVE E G CHIRAL LIGHT SCATTERING MEDIA AND EXPLORES ADVANCES IN SPECTRO POLARIMETRY OF PARTICULATE MEDIA LASTLY IT DISCUSSES NEW DEVELOPMENTS IN LIGHT SCATTERING FOR COMBUSTION MONITORING

A Course on Function Spaces

2023-02-06

THE SUBJECT MATTER OF THIS BOOK FORMED THE SUBSTANCE OF A MATHEMATICAL SE AM WHICH WAS WORKED BY MANY OF THE GREAT MATHEMATICIANS OF THE LAST CENTURY THE MINING METAPHOR IS HERE VERY APPROPRIATE FOR THE ANALYTICAL TOOLS PERFECTED BY CAUCHY PERMITTED THE MATHEMATICAL ARGUMENT TO PENETRA TE TO UNPRECEDENTED DEPTHS OVER A RESTRICTED REGION OF ITS DOMAIN AND ENABLED MATHEMATICIANS LIKE ABEL JACOBI AND WEIERSTRASS TO UNCOVER A TREASUREHOUSE OF RESULTS WHOSE VARIETY AESTHETIC APPEAL AND CAPACITY FOR AROUSING OUR ASTONISHMENT HAVE NOT SINCE BEEN EQUALED BY RESEARCH IN ANY OTHER AREA BUT THE CIRCUMSTANCE THAT THIS THEORY CAN BE APPLIED TO SOLVE PROBLEMS ARISING IN MANY DEPARTMENTS OF SCIENCE AND ENGINEERING GRACES THE TOPIC WITH AN ADDITIONAL AURA AND PROVIDES A POWERFUL ARGUMENT FOR INCLUDING IT IN UNIVERSITY COURSES FOR STUDENTS WHO ARE EXPECTED TO USE MATHEMATICS AS A TOOL FOR TECHNOLOGICAL INVESTIGATIONS IN LATER LIFE UNFORTUNATELY SINCE THE STATUS OF UNIVERSITY STAFF IS ALMOST WHOLLY DETERMINED BY THEIR EFFECTIVENESS AS RESEARCH WORKERS RATHER THAN AS TEACHERS THE CONTENT OF UNDERGRADUATE COURSES TENDS TO REFLECT THOSE ACADEMIC RESEARCH TOPICS WHICH ARE CURRENTLY POPULAR AND BEARS LITTLE RELATIONSHIP TO THE FUTURE NEEDS OF STUDENTS WHO ARE THEMSELVES NOT DESTINED TO BECOME UNIVERSITY TEACHERS THUS HAVING BEEN COMPREHENSIVELY EXPLORED IN THE LAST CENTURY AND BEING UNDOUBTEDLY DIFFICULT

Modular Forms: Basics and Beyond

2011-11-18

THE TERM WEAKLY DIFFERENTIABLE FUNCTIONS IN THE TITLE REFERS TO THOSE INTE N GRABLE FUNCTIONS DEFINED ON AN OPEN SUBSET OF R WHOSE PARTIAL DERIVATIVES IN THE SENSE OF DISTRIBUTIONS ARE EITHER LP FUNCTIONS OR SIGNED MEASURES WITH FINITE TOTAL VARIATION THE FORMER CLASS OF FUNCTIONS COMPRISES WHAT IS NOW KNOWN AS SOBOLEV SPACES THOUGH ITS ORIGIN TRACEABLE TO THE EARLY 1900S PREDATES THE CONTRIBUTIONS BY SOBOLEV BOTH CLASSES OF FUNCTIONS SOBOLEV SPACES AND THE SPACE OF FUNCTIONS OF BOUNDED VARIATION BV FUNC TIONS HAVE UNDERGONE CONSIDERABLE DEVELOPMENT DURING THE PAST 20 YEARS FROM THIS DEVELOPMENT A RATHER COMPLETE THEORY HAS EMERGED AND THUS HAS PROVIDED THE MAIN IMPETUS FOR THE WRITING OF THIS BOOK SINCE THESE CLASSES OF FUNCTIONS PLAY A SIGNIFICANT ROLE IN MANY FIELDS SUCH AS APPROXIMATION THEORY CALCULUS OF VARIATIONS PARTIAL DIFFERENTIAL EQUATIONS AND NON LINEAR POTENTIAL THEORY IT IS HOPED THAT THIS MONOGRAPH WILL BE OF ASSISTANCE TO A WIDE RANGE OF GRADUATE STUDENTS AND RESEARCHERS IN THESE AND PERHAPS OTHER RELATED AREAS SOME OF THE MATERIAL IN CHAPTERS 1 4 HAS BEEN PRESENTED IN A GRADUATE COURSE AT INDIANA UNIVERSITY DURING THE 1987 88 ACADEMIC YEAR AND I AM INDEBTED TO THE STUDENTS AND COLLEAGUES IN ATTENDANCE FOR THEIR HELPFUL COMMENTS AND SUGGESTIONS

Springer Series in Light Scattering

2017-12-22

BASED ON COURSES GIVEN AT E? TV? S LOR? ND UNIVERSITY HUNGARY OVER THE PAST 30 YEARS THIS INTRODUCTORY TEXTBOOK DEVELOPS THE CENTRAL CONCEPTS OF THE ANALYSIS OF FUNCTIONS OF ONE VARIABLE SYSTEMATICALLY WITH MANY EXAMPLES AND ILLUSTRATIONS AND IN A MANNER THAT BUILDS UPON AND SHARPENS THE STUDENT S MATHEMATICAL INTUITION THE BOOK PROVIDES A SOLID GROUNDING IN THE BASICS OF LOGIC AND PROOFS SETS AND REAL NUMBERS IN PREPARATION FOR A STUDY OF THE MAIN TOPICS LIMITS CONTINUITY RATIONAL FUNCTIONS AND TRANSCENDENTAL FUNCTIONS DIFFERENTIATION AND INTEGRATION NUMEROUS APPLICATIONS TO OTHER AREAS OF MATHEMATICS AND TO PHYSICS ARE GIVEN THEREBY DEMONSTRATING THE PRACTICAL SCOPE AND POWER OF THE THEORETICAL CONCEPTS TREATED IN THE SPIRIT OF LEARNING BY DOING REAL ANALYSIS INCLUDES MORE THAN 500 ENGAGING EXERCISES FOR THE STUDENT KEEN ON MASTERING THE BASICS OF ANALYSIS THE WEALTH OF MATERIAL AND MODULAR ORGANIZATION OF THE BOOK MAKE IT ADAPTABLE AS A TEXTBOOK FOR COURSES OF VARIOUS LEVELS THE HINTS AND SOLUTIONS PROVIDED FOR THE MORE CHALLENGING EXERCISES MAKE IT IDEAL FOR INDEPENDENT STUDY

Elliptic Functions and Applications

2013-03-09

FROM THE PREFACE OF THE AUTHOR I HAVE DIVIDED THIS WORK INTO TWO BOOKS IN THE FIRST OF THESE I HAVE CONFINED MYSELF TO THOSE MATTERS CONCERNING PURE ANALYSIS IN THE SECOND BOOK I HAVE EXPLAINED THOSE THING WHICH MUST BE KNOWN FROM GEOMETRY SINCE ANALYSIS IS ORDINARILY DEVELOPED IN SUCH A WAY THAT ITS APPLICATION TO GEOMETRY IS SHOWN IN THE FIRST BOOK SINCE ALL OF ANALYSIS IS CONCERNED WITH VARIABLE QUANTITIES AND FUNCTIONS OF SUCH VARIABLES I HAVE GIVEN FULL TREATMENT TO FUNCTIONS I HAVE ALSO TREATED THE TRANSFORMATION OF FUNCTIONS AND FUNCTIONS AS THE SUM OF INFINITE SERIES IN ADDITION I HAVE DEVELOPED FUNCTIONS IN INFINITE SERIES

Weakly Differentiable Functions

2012-12-06

OF INTEREST TO ADVANCED STUDENTS THIS BOOK FOCUSES ON GREEN S FUNCTIONS FOR OBTAINING SIMPLE AND GENERAL SOLUTIONS TO BASIC PROBLEMS IN QUANTUM PHYSICS IT DEMONSTRATES THE UNIFYING FORMALISM OF GREEN S FUNCTIONS ACROSS MANY APPLICATIONS INCLUDING TRANSPORT PROPERTIES CARBON NANOTUBES AND PHOTONICS AND PHOTONIC CRYSTALS

Elementary Analysis

2014-01-15

THE IMPLICIT FUNCTION THEOREM IS ONE OF THE MOST IMPORTANT THEOREMS IN ANALYSIS AND ITS MANY VARIANTS ARE BASIC TOOLS IN PARTIAL DIFFERENTIAL EQUATIONS AND NUMERICAL ANALYSIS THIS SECOND EDITION OF IMPLICIT FUNCTIONS AND SOLUTION MAPPINGS PRESENTS AN UPDATED AND MORE COMPLETE PICTURE OF THE FIELD BY INCLUDING SOLUTIONS OF PROBLEMS THAT HAVE BEEN SOLVED SINCE THE FIRST EDITION WAS PUBLISHED AND PLACES OLD AND NEW RESULTS IN A BROADER PERSPECTIVE THE PURPOSE OF THIS SELF CONTAINED WORK IS TO PROVIDE A REFERENCE ON THE TOPIC AND TO PROVIDE A UNIFIED COLLECTION OF A NUMBER OF RESULTS WHICH ARE CURRENTLY SCATTERED THROUGHOUT THE LITERATURE UPDATES TO THIS EDITION INCLUDE NEW SECTIONS IN ALMOST ALL CHAPTERS NEW EXERCISES AND EXAMPLES UPDATED COMMENTARIES TO CHAPTERS AND AN ENLARGED INDEX AND REFERENCES SECTION

Real Analysis

2015-10-08

THIS MONOGRAPH AIMS TO FILL A VOID BY MAKING AVAILABLE A SOURCE BOOK WHICH FIRST SYSTEMATICALLY DESCRIBES ALL THE AVAILABLE UNIQUENESS AND NONUNIQUENESS CRITERIA FOR ORDINARY DIFFERENTIAL EQUATIONS AND COMPARES AND CONTRASTS THE MERITS OF THESE CRITERIA AND SECOND DISCUSSES OPEN PROBLEMS AND OFFERS SOME DIRECTIONS TOWARDS POSSIBLE SOLUTIONS

Introduction to Analysis of the Infinite

2012-12-06

THIS UNUSUAL AND LIVELY TEXTBOOK OFFERS A CLEAR AND INTUITIVE APPROACH TO THE CLASSICAL AND BEAUTIFUL THEORY OF COMPLEX VARIABLES WITH VERY LITTLE DEPENDENCE ON ADVANCED CONCEPTS FROM SEVERAL VARIABLE CALCULUS AND TOPOLOGY THE TEXT FOCUSES ON THE AUTHENTIC COMPLEX VARIABLE IDEAS AND TECHNIQUES ACCESSIBLE TO STUDENTS AT THEIR EARLY STAGES OF MATHEMATICAL STUDY THIS FULL FIRST YEAR COURSE IN COMPLEX ANALYSIS OFFERS NEW AND INTERESTING MOTIVATIONS FOR CLASSICAL RESULTS AND INTRODUCES RELATED TOPICS STRESSING MOTIVATION AND TECHNIQUE NUMEROUS ILLUSTRATIONS EXAMPLES AND NOW 300 EXERCISES ENRICH THE TEXT STUDENTS WHO MASTER THIS TEXTBOOK WILL EMERGE WITH AN EXCELLENT GROUNDING IN COMPLEX ANALYSIS AND A SOLID UNDERSTANDING OF ITS WIDE APPLICABILITY

Green's Functions in Quantum Physics

2006-08-02

THE SUBJECT OF REAL ANALYTIC FUNCTIONS IS ONE OF THE OLDEST IN MATHE MATICAL ANALYSIS TODAY IT IS ENCOUNTERED EARLY IN ONES MATHEMATICAL TRAINING THE FIRST TASTE USUALLY COMES IN CALCULUS WHILE MOST WORK ING MATHEMATICIANS USE REAL ANALYTIC FUNCTIONS FROM TIME TO TIME IN THEIR WORK THE VAST LORE OF REAL ANALYTIC FUNCTIONS REMAINS OBSCURE AND BURIED IN THE LITERATURE IT IS REMARKABLE THAT THE MOST ACCESSIBLE TREATMENT OF PUISEUX S THEOREM IS IN LEFSCHETZ S QUITE OLD ALGEBRAIC GEOMETRY THAT THE CLEAREST DISCUSSION OF RESOLUTION OF SINGULARITIES FOR REAL ANALYTIC MANIFOLDS IS IN A BOOK REVIEW BY MICHAEL ATIYAH THAT THERE IS NO COMPREHENSIVE DISCUSSION IN PRINT OF THE EMBEDDING PROB LEM FOR REAL ANALYTIC MANIFOLDS WE HAVE HAD OCCASION IN OUR

COLLABORATIVE RESEARCH TO BECOME AC QUAINTED WITH BOTH THE HISTORY AND THE SCOPE OF THE THEORY OF REAL ANALYTIC FUNCTIONS IT SEEMS BOTH APPROPRIATE AND TIMELY FOR US TO GATHER TOGETHER THIS INFORMATION IN A SINGLE VOLUME THE MATERIAL PRESENTED HERE IS OF THREE KINDS THE ELEMENTARY TOPICS COVERED IN CHAPTER 1 ARE PRESENTED IN GREAT DETAIL EVEN RESULTS LIKE A REAL ANA LYTIC INVERSE FUNCTION THEOREM ARE DIFFICULT TO FIND IN THE LITERATURE AND WE TAKE PAINS HERE TO PRESENT SUCH TOPICS CAREFULLY TOPICS OF MIDDLING DIFFICULTY SUCH AS SEPARATE REAL ANALYTICITY PUISEUX SERIES THE FBI TRANSFORM AND RELATED IDEAS CHAPTERS 2 4 ARE COVERED THOROUGHLY BUT RATHER MORE BRISKLY

Implicit Functions and Solution Mappings

2014-06-18

THESE NOTES PRESENT RECENT RESULTS IN THE VALUE DISTRIBUTION THEORY OF L FUNCTIONS WITH EMPHASIS ON THE PHENOMENON OF UNIVERSALITY UNIVERSALITY HAS A STRONG IMPACT ON THE ZERO DISTRIBUTION RIEMANN S HYPOTHESIS IS TRUE ONLY IF THE RIEMANN ZETA FUNCTION CAN APPROXIMATE ITSELF UNIFORMLY THE TEXT PROVES UNIVERSALITY FOR POLYNOMIAL EULER PRODUCTS THE AUTHORS APPROACH FOLLOWS MAINLY BAGCHI S PROBABILISTIC METHOD DISCUSSION TOUCHES ON RELATED TOPICS ALMOST PERIODICITY DENSITY ESTIMATES NEVANLINNA THEORY AND FUNCTIONAL INDEPENDENCE

Uniqueness and Nonuniqueness Criteria for Ordinary Differential Equations

1993

FUNCTIONS IN R AND C INCLUDING THE THEORY OF FOURIER SERIES FOURIER INTEGRALS AND PART OF THAT OF HOLOMORPHIC FUNCTIONS FORM THE FOCAL TOPIC OF THESE TWO VOLUMES BASED ON A COURSE GIVEN BY THE AUTHOR TO LARGE AUDIENCES AT PARIS VII UNIVERSITY FOR MANY YEARS THE EXPOSITION PROCEEDS SOMEWHAT NONLINEARLY BLENDING RIGOROUS MATHEMATICS SKILFULLY WITH DIDACTICAL AND HISTORICAL CONSIDERATIONS IT SETS OUT TO ILLUSTRATE THE VARIETY OF POSSIBLE APPROACHES TO THE MAIN RESULTS IN ORDER TO INITIATE THE READER TO METHODS THE UNDERLYING REASONING AND FUNDAMENTAL IDEAS IT IS SUITABLE FOR BOTH TEACHING AND SELF STUDY IN HIS FAMILIAR PERSONAL STYLE THE AUTHOR EMPHASIZES IDEAS OVER CALCULATIONS AND AVOIDING THE CONDENSED STYLE FREQUENTLY FOUND IN TEXTBOOKS EXPLAINS THESE IDEAS WITHOUT PARSIMONY OF WORDS THE FRENCH EDITION IN FOUR VOLUMES PUBLISHED FROM 1998 HAS MET WITH RESOUNDING SUCCESS THE FIRST TWO VOLUMES ARE NOW AVAILABLE IN ENGLISH

Complex Analysis

2010-08-02

THIS BOOK CONTAINS THE IDEAS OF FUNCTIONAL DATA ANALYSIS BY A NUMBER OF CASE STUDIES THE CASE STUDIES ARE ACCESSIBLE TO RESEARCH WORKERS IN A WIDE RANGE OF DISCIPLINES EVERY READER SHOULD GAIN NOT ONLY A SPECIFIC UNDERSTANDING OF THE METHODS OF FUNCTIONAL DATA ANALYSIS BUT MORE IMPORTANTLY A GENERAL INSIGHT INTO THE UNDERLYING PATTERNS OF THOUGHT THERE IS AN ASSOCIATED WEB SITE WITH MATLABR AND S PLUSR IMPLEMENTATIONS OF THE METHODS DISCUSSED

A Primer of Real Analytic Functions

2013-03-09

around 1970 an abrupt change occurred in the study of holomorphic functions of several complex variables sheaves vanished into the back ground and attention was focused on integral formulas and on the hard analysis problems that could be attacked with them boundary behavior complex tangential phenomena solutions of the j problem with control over growth and smoothness quantitative theorems about zero varieties and so on the present book describes some of these developments in the simple setting of the unit ball of en there are several reasons for choosing the ball for our principal stage the ball is the prototype of two important classes of regions that have been studied in depth namely the strictly pseudoconvex domains and the bounded symmetric ones the presence of the second structure i e the existence of a transitive group of automorphisms makes it possible to develop the basic machinery with a minimum of fuss and bother the principal ideas can be presented quite concretely and explicitly in the ball and one can quickly arrive at specific theorems of obvious interest once one has seen these in this simple context it should be much easier to learn the more complicated machinery developed largely by henkin and his co workers that extends them to arbitrary strictly pseudoconvex domains in some parts of the book for instance in chapters 14 16 it would however have been unnatural to confine our attention exclusively to the ball and no significant simplifications would have resulted from such a restriction

Value-Distribution of L-Functions

2007-05-26

this book contains a multitude of challenging problems and solutions that are not commonly found in classical textbooks one goal of the book is to present these fascinating mathematical problems in a new and engaging way and illustrate the connections between integrals sums and series many of which involve zeta functions harmonic series polylogarithms and various other special functions and constants throughout the book the reader will find both classical and new problems with numerous original problems and solutions coming from the personal research of the author where classical problems are concerned such as those given in olympiads or proposed by famous mathematicians like ramanujan the author has come up with new surprising or unconventional ways of obtaining the desired results the book begins with a lively foreword by renowned author paul nahin and is accessible to those with a good knowledge of calculus from undergraduate students to researchers and will appeal to all mathematical puzzlers who love a good integral or series

Analysis II

2006-09-11

the subjects treated in this book have been especially chosen to represent a bridge connecting the content of a first course on the elementary theory of analytic functions with a rigorous treatment of some of the most important special functions the euler gamma function the gauss hypergeometric

FUNCTION AND THE KUMMER CONFLUENT HYPERGEOMETRIC FUNCTION SUCH SPECIAL FUNCTIONS ARE INDISPENSABLE TOOLS IN HIGHER CALCULUS AND ARE FREQUENTLY ENCOUNTERED IN ALMOST ALL BRANCHES OF PURE AND APPLIED MATHEMATICS THE ONLY KNOWLEDGE ASSUMED ON THE PART OF THE READER IS AN UNDERSTANDING OF BASIC CONCEPTS TO THE LEVEL OF AN ELEMENTARY COURSE COVERING THE RESIDUE THEOREM CAUCHY S INTEGRAL FORMULA THE TAYLOR AND LAURENT SERIES EXPANSIONS POLES AND ESSENTIAL SINGULARITIES BRANCH POINTS ETC THE BOOK ADDRESSES THE NEEDS OF ADVANCED UNDERGRADUATE AND GRADUATE STUDENTS IN MATHEMATICS OR PHYSICS

Applied Functional Data Analysis

2007-11-23

THE BOOK PROVIDES A THOROUGH TREATMENT OF SET FUNCTIONS GAMES AND CAPACITIES AS WELL AS INTEGRALS WITH RESPECT TO CAPACITIES AND GAMES IN A MATHEMATICAL RIGOROUS PRESENTATION AND IN VIEW OF APPLICATION TO DECISION MAKING AFTER A SHORT CHAPTER INTRODUCING SOME REQUIRED BASIC KNOWLEDGE LINEAR PROGRAMMING POLYHEDRA ORDERED SETS AND NOTATION THE FIRST PART OF THE BOOK CONSISTS OF THREE LONG CHAPTERS DEVELOPING THE MATHEMATICAL ASPECTS THIS PART IS NOT RELATED TO A PARTICULAR APPLICATION FIELD AND BY ITS NEUTRAL MATHEMATICAL STYLE IS USEFUL TO THE WIDEST AUDIENCE IT GATHERS MANY RESULTS AND NOTIONS WHICH ARE SCATTERED IN THE LITERATURE OF VARIOUS DOMAINS GAME THEORY DECISION COMBINATORIAL OPTIMIZATION AND OPERATIONS RESEARCH THE SECOND PART CONSISTS OF THREE CHAPTERS APPLYING THE PREVIOUS NOTIONS IN DECISION MAKING AND MODELLING DECISION UNDER UNCERTAINTY DECISION WITH MULTIPLE CRITERIA POSSIBILITY THEORY AND DEMPSTER SHAFER THEORY

Function Theory in the Unit Ball of Cn

2012-12-06

(Almost) Impossible Integrals, Sums, and Series

2019-05-10

An Introduction to Special Functions

2016-10-31

Set Functions, Games and Capacities in Decision Making

2016-06-15

Electrical Power statistics Equipment Maintenance and Testing, Second Edition of Maintenance Test Flight Manual posterior HEALTH MAINTENANCE ORGANIZATIONS: TOWARD A FAIR MARKET TEST: A POLICY STATEMENT BY A COMMITTEE OF THE INSTITUTE OF MEDICINE. GS and springer Depot Maintenance Manual Including Repair Parts and Special Tools List Electrical statistics Insulation for Rotating Machines Operator, Organizational inference and Intermediate (direct Support and General Support) Maintenance Manual (including Repair Parts and Special Tools List) Operator and Organizational Maintenance Manual the Monthly for Catalogue, United States Public Documents Monthly Catalog of United States Government Publications for Operator, Organizational, Direct Support tools and General Support Maintenance Manual statistical DS and GS Maintenance Manual Test and Maintenance of Manual for Telephone Central Office AN/TTC-7 Operator's, Organizational, Direct of Support, and General Support Maintenance Manual ... Direct Support and statistical General Support Maintenance posterior Direct Support and General Support Maintenance Manual Organizational Maintenance Manual for Gun, Air Defense Artillery, Self-propelled, 20-mm, M163A1, Cannon M168, Mount M157A1, Sight M61, and Radar AN/VPS-2, series (NSN 2350-01-017-2113). Operator's, Organizational, Direct Support, and General Support Maintenance Manual functions Maintenance Testing of Navy Underground for High Voltage Cables Operator, Organizational, and Direct Support Maintenance Manual for Test Set, inference Electronics System, AN/TSM-100B, (NSN. Maintenance Testing for the Data Encryption Standard for Organizational, DS, for GS, and Depot Maintenance Manual (including Repair Parts and Special Tools List) Direct Current posterior Generator G-43/G. Operator, Organizational, DS, GS, and Depot Maintenance Manual Including Repair Parts of and Special Tool Lists Manuals Combined: U.S. Army CUCV M1008 M1009 M1010 Truck - 27 Operator, Maintenance and And Parts Manuals Liveline inference Maintenance Audel Electrical Course of for Apprentices and Journeymen Air Force Engineering for & Services Quarterly Electrical World distributions Operator's and Organizational Maintenance Manual distributions USAF Formal Schools series Test the and Maintenance Stands likelihood Operator's, Organizational, Direct Support, and General Support Maintenance Manual for Power Supply PP-7833/U, (NSN 6130-00-249-2748). posterior Operator's, Organizational, DS, GS, and Depot Maintenance Manual Aviation Unit and Intermediate the Maintenance Manual Community College of the exploration Air Force General Catalog Operator's and Organizational Maintenance Manual Including Repair Parts and Special posterior Tools Lists Operator, Organizational, and Direct Support Maintenance Manual for Test of Set, Electronic System AN/TSM-100A, (NSN 4933-01-047-3389). Federal Register exploration Organizational, of DS, GS, and Depot Maintenance Manual Direct Support and the General Support Maintenance

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