1. Record Nr. UNINA9910460746003321

Autore	Taheri Ali
Titolo	Function spaces and partial differential equations . Volume 1 Classical analysis / / Ali Taheri
Pubbl/distr/stampa	Oxford, England : , : Oxford University Press, , 2015 ©2015
ISBN	0-19-104783-X 0-19-179771-5 0-19-104782-1
Edizione	[First edition.]
Descrizione fisica	1 online resource (523 p.)
Collana	Oxford Lecture Series in Mathematics and Its Applications
Disciplina	515.73
Soggetti	Function spaces Differential equations, Partial Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Cover; Preface; Contents of Volume 1; Contents of Volume 2; 1 Harmonic Functions and the Mean-Value Property; 1.1 Spherical Means; 1.2 Mean-Value Property and Smoothness; 1.3 Maximum Principles; 1.4 The Laplace-Beltrami Operator on Spheres; 1.5 Harnack's Monotone Convergence Theorem; 1.6 Interior Estimates and Uniform Gradient Bounds; 1.7 Weyl's Lemma on Weakly Harmonic Functions; 1.8 Exercises and Further Results; 2 Poisson Kernels and Green's Representation Formula; 2.1 The Fundamental Solution N of ; 2.2 Green's Identities and Representation Formulas; 2.3 The Green's Function G = G(x,y)2.4 The Poisson Kernel P = P(x,y;); 2.5 Explicit Constructions: Balls; 2.6 Explicit Constructions: Half-Spaces; 2.7 The Newtonian Potential N[f;]; 2.8 Decay of the Newtonian Potential; 2.9 Second Order Derivatives and N[f;]; 2.10 Exercises and Further Results; 3 Abel-Poisson and Fejer Means of Fourier Series; 3.1 Function Spaces on the Circle; 3.2 Conjugate Series; Magnitude of Fourier Coefficients; 3.3 Summability Methods; Tauberian Theorems; 3.4 Abel-Poisson vs. Fejer Means of Fourier Series; 3.5 L1(T) and M(T) as Convolution Banach

Sommario/riassunto

This is a book written primarily for graduate students and early researchers in the fields of Analysis and Partial Differential Equations (PDEs). Coverage of the material is essentially self-contained, extensive and novel with great attention to details and rigour. The strength of the book primarily lies in its clear and detailed explanations, scope and coverage, highlighting and presenting deep and profound inter-connections between different related and seeminglyunrelated disciplines within classical and modern mathematics and above all the extensive collection of examples, worked-out and hi