

1. Record Nr.	UNINA9910784526003321
Autore	Adams Robert A. <1940->
Titolo	Sobolev spaces [[electronic resource] /] / Robert A. Adams and John J.F. Fournier
Pubbl/distr/stampa	Amsterdam, : Academic Press, 2003
ISBN	1-281-07246-X 9786611072469 0-08-054129-1 1-4356-0810-0
Edizione	[2nd ed.]
Descrizione fisica	1 online resource (321 p.)
Collana	Pure and applied mathematics ; ; v. 140
Altri autori (Persone)	FournierJohn J. F
Disciplina	510.8 s515.7 510/.8 s 515/.7 515.782
Soggetti	Sobolev spaces
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	Front Cover; SOBOLEV SPACES; Copyright Page; CONTENTS; Preface; List of Spaces and Norms; CHAPTER 1. PRELIMINARIES; Notation; Topological Vector Spaces; Normed Spaces; Spaces of Continuous Functions; The Lebesgue Measure in R^n ; The Lebesgue Integral; Distributions and Weak Derivatives; CHAPTER 2. THE LEBESGUE SPACES $L^p()$; Definition and Basic Properties; Completeness of $L^p()$; Approximation by Continuous Functions; Convolutions and Young's Theorem; Mollifiers and Approximation by Smooth Functions; Precompact Sets in $L^p()$; Uniform Convexity; The Normed Dual of $L^p()$; Mixed-Norm L^p Spaces Nonimbedding Theorems for Irregular Domains Imbedding Theorems for Domains with Cusps; Imbedding Inequalities Involving Weighted Norms; Proofs of Theorems 4.51-4.53; CHAPTER 5. INTERPOLATION, EXTENSION, AND APPROXIMATION THEOREMS; Interpolation on Order of Smoothness; Interpolation on Degree of Sumability; Interpolation Involving Compact Subdomains; Extension Theorems; An Approximation Theorem; Boundary Traces; CHAPTER 6. COMPACT IMBEDDINGS OF SOBOLEV SPACES; The Rellich-Kondrachov Theorem;

Two Counterexamples; Unbounded Domains - Compact Imbeddings of $W^{m,p}(\Omega)$
An Equivalent Norm for $W^{m,p}(\Omega)$ Unbounded Domains m Decay at Infinity; Unbounded Domains - Compact Imbeddings of $W^{m,p}(\Omega)$; Hilbert-Schmidt Imbeddings; CHAPTER 7. FRACTIONAL ORDER SPACES; Introduction; The Bochner Integral; Intermediate Spaces and Interpolation-The Real Method; The Lorentz Spaces; Besov Spaces; Generalized Spaces of Holder Continuous Functions; Characterization of Traces; Direct Characterizations of Besov Spaces; Other Scales of Intermediate Spaces; Wavelet Characterizations; CHAPTER 8. ORLICZ SPACES AND ORLICZ-SOBOLEV SPACES; Introduction; N-Functions; Orlicz Spaces
Duality in Orlicz Spaces Separability and Compactness Theorems; A Limiting Case of the Sobolev Imbedding Theorem; Orlicz-Sobolev Spaces; Imbedding Theorems for Orlicz-Sobolev Spaces; References; Index

Sommario/riassunto

Sobolev Spaces presents an introduction to the theory of Sobolev Spaces and other related spaces of function, also to the imbedding characteristics of these spaces. This theory is widely used in pure and Applied Mathematics and in the Physical Sciences. This second edition of Adam's 'classic' reference text contains many additions and much modernizing and refining of material. The basic premise of the book remains unchanged: Sobolev Spaces is intended to provide a solid foundation in these spaces for graduate students and researchers alike.

* Self-contained and acc
