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Autore	Simon Jacques
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Descrizione fisica	1 online resource (367 pages) : illustrations
Collana	Analysis for PDEs Set
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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Introduction -- Familiarization with semi-normed spaces -- Notations -- Prerequisites -- ; Part 1. Semi-normed spaces ; Semi-normed spaces -- Comparison of semi-normed spaces -- Banach, Frechet and Neumann spaces -- Hilbert spaces -- Product, intersection, sum and quotient of spaces -- ; Part 2. Continuous mappings ; Continuous mappings -- Images of sets under continuous mappings -- Properties of mappings in metrizable spaces -- Extension of mappings, equicontinuity -- Compactness in mapping spaces -- Spaces of linear or multilinear mappings -- ; Part 3. Weak topologies ; Duality -- Dual of a subspace -- Weak topology -- Properties of sets for the weak topology -- Reflexivity -- Extractable spaces -- ; Part 4. Differential calculus ; Differentiable mappings -- Differentiation of multivariable mappings -- Successive differentiations -- Derivation of functions of one real variable.
Sommario/riassunto	This book is the first of a set dedicated to the mathematical tools used in partial differential equations derived from physics. Its focus is on normed or semi-normed vector spaces, including the spaces of Banach, Frechet and Hilbert, with new developments on Neumann spaces, but also on extractable spaces. The author presents the main properties of these spaces, which are useful for the construction of Lebesgue and

Sobolev distributions with real or vector values and for solving partial differential equations. Differential calculus is also extended to semi-normed spaces. Simple methods, semi-norms, sequential properties and others are discussed, making these tools accessible to the greatest number of students - doctoral students, postgraduate students - engineers and researchers without restricting or generalizing the results.--