

1. Record Nr.	UNINA9910819749603321
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Titolo	Nonstandard methods in functional analysis : lectures and notes // Siu-Ah Ng
Pubbl/distr/stampa	Singapore ; ; Hackensack, NJ, : World Scientific, c2010
ISBN	1-282-76154-4 9786612761546 981-4287-55-5
Edizione	[1st ed.]
Descrizione fisica	1 online resource (340 p.)
Disciplina	515/.7
Soggetti	Functional analysis Nonstandard mathematical analysis
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	Preface; Convention and Symbols; List of Theorems; Contents; 1. Nonstandard Analysis; 2. Banach Spaces; 3. Banach Algebras; 4. Selected Research Topics; Suggestions for Further Reading; Bibliography; Index
Sommario/riassunto	In the early 1960's, by using techniques from the model theory of first-order logic, Robinson gave a rigorous formulation and extension of Leibniz' infinitesimal calculus. Since then, the methodology has found applications in a wide spectrum of areas in mathematics, with particular success in the probability theory and functional analysis. In the latter, fruitful results were produced with Luxemburg's invention of the nonstandard hull construction. However, there is still no publication of a coherent and self-contained treatment of functional analysis using methods from nonstandard analysis.