1. Record Nr. UNINA9910983303003321

Autore	Kkol Jerzy
Titolo	Descriptive Topology in Selected Topics of Functional Analysis : Updated and Expanded / / by Jerzy Kkol, Wiesaw Kubi, Manuel López-Pellicer, Damian Sobota
Pubbl/distr/stampa	Cham : , : Springer Nature Switzerland : , : Imprint : Springer, , 2025
ISBN	9783031760624 303176062X
Edizione	[2nd ed. 2025.]
Descrizione fisica	1 online resource (XV, 700 p. 12 illus.)
Collana	Developments in Mathematics, , 2197-795X ; ; 24
Disciplina	514
Soggetti	Topology Functional analysis Functions, Special Functional Analysis Special Functions Topologia Anàlisi funcional Funcions especials Llibres electrònics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	-- 1. Overview. -- 2. Elementary facts about Baire and Baire-type spaces. -- 3. K-analytic and quasi-Suslin Spaces. -- 4. Web-compact spaces and angelic theorems. -- 5. Strongly web-compact spaces and a closed graph theorem. -- 6. Weakly analytic spaces. -- 7. K-analytic Baire spaces. -- 8. A three-space property for analytic spaces. -- 9. K-analytic and analytic spaces Cp(X). -- 10. Precompact sets in (LM)-Spaces and dual metric spaces. -- 11. Metrizability of compact sets in the class G. -- 12. Weakly realcompact locally convex spaces. -- 13. Corson’s property (C) and tightness. -- 14. Fréchet-Urysohn spaces and groups. -- 15. Sequential properties in the class G. -- 16. Tightness and distinguished Fréchet spaces. -- 17. Distinguished spaces Cp(X) and Delta-spaces X. -- 18. Generalized metric spaces

with G-bases. -- 19. The Grothendieck property for C(K)-Spaces. -- 20. The l1-Grothendieck property for C(K)-Spaces. -- 21. The Nikodym property of Boolean algebras. -- 22. Banach spaces with many projections. -- 23. Spaces of continuous functions over compact lines. -- 24. Compact spaces generated by retractions. -- 25. Complementably universal Banach spaces.

Sommario/riassunto

A large mathematical community throughout the world actively works in functional analysis and uses profound techniques from topology. Written by experts in the field, this book is a treasure trove for researchers and graduate students studying the interplay among the areas of point-set and descriptive topology, modern analysis, set theory, topological vector spaces, including Banach spaces, and continuous function spaces. This second edition continues in the same spirit of the acclaimed first edition, providing new insights into the connections between the topological properties of linear function spaces and their applications in functional analysis. It has been expanded by adding completely new Chapters 17–21, presenting results concerning, but not limited to, topological spaces and groups with G-bases, various concepts related to networks and their applications in topology and functional analysis, and those that develop topological and analytic methods related to Grothendieck Banach spaces and Boolean algebras with the Nikodym property. The book will continue to serve as a reference for present and future work done in this area and could serve as a valuable supplement to advanced graduate courses in functional analysis, set-theoretic topology, or the theory of function spaces.