1. Record Nr. UNINA9911011655403321 Autore Illanes Alejandro Titolo Continuum Theory / / by Alejandro Illanes Cham:,: Springer Nature Switzerland:,: Imprint: Springer,, 2025 Pubbl/distr/stampa **ISBN** 9783031910111 Edizione [1st ed. 2025.] Descrizione fisica 1 online resource (536 pages) Universitext, , 2191-6675 Collana Disciplina 514 Soggetti **Topology** Mathematical analysis **Analysis** Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di contenuto Chapter 1. Introduction -- Chapter 2. Locally Connected Continua --Chapter 3. CuttingWires and Bumping Boundaries -- Chapter 4. Indecomposable Continua -- Chapter 5. Characterizing Arcs and Circles -- Chapter 6. Finite Graphs -- Chapter 7. Dendroids -- Chapter 8. The Cantor Set -- Chapter 9. Hyperspaces of Continua -- Chapter 10. Models of Hyperspaces -- Chapter 11. Irreducible Continua --Chapter 12. Unicoherence -- Chapter 13. The Fixed Point Property --Chapter 14. Inverse Limits -- Chapter 15. Homogeneity of the Hilbert Cube -- Chapter 16. Absolute Retracts -- Chapter 17. Stronger Properties of the Pseudo-Arc. This graduate textbook provides a natural and structured introduction Sommario/riassunto to Continuum Theory, guiding readers from fundamental concepts to advanced topics. It covers classical results such as locally connected continua, indecomposable continua, arcs, circles, finite graphs, dendroids, and the relationship between the Cantor set and continua. The second half explores the theory of hyperspaces, presenting various models, their properties, and key theorems, while also highlighting elegant and lesser-known mathematical results. Designed for readers with an understanding of basic topology, this book serves as a valuable resource for PhD students and researchers in mathematics. It offers a

rigorous and thorough approach, with detailed proofs that clarify complex arguments—especially regarding the intricate properties of

the pseudo-arc. A wealth of exercises helps reinforce understanding and develop problem-solving skills. This book stands out for its depth and breadth, covering a range of topics. It provides a comprehensive study of hyperspace models, the homogeneity of the Hilbert cube, and the pseudo-arc, offering one of the few accessible and complete proofs of its unique properties. With its structured progression and careful exposition, this book is a valuable reference for anyone interested in continuum theory.