Record Nr. UNINA9910453054303321 Autore Popov Mykhailo Mykhailovych Titolo Narrow operators on function spaces and vector lattices [[electronic resource] /] / Mikhail Popov, Beata Randrianantoanina Berlin, : De Gruyter, 2013 Pubbl/distr/stampa **ISBN** 3-11-026334-3 Descrizione fisica 1 online resource (336 p.) De Gruyter Studies in Mathematics;; 45 Collana De Gruyter studies in mathematics, , 0179-0986; ; 45 Altri autori (Persone) RandrianantoaninaBeata Disciplina 515/.73 Soggetti Narrow operators Riesz spaces Function spaces Electronic books. 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 indexes. Nota di contenuto Frontmatter -- Preface -- Contents -- Chapter 1. Introduction and preliminaries -- Chapter 2. Each "small" operator is narrow -- Chapter 3. Some properties of narrow operators with applications to nonlocally convex spaces -- Chapter 4. Noncompact narrow operators -- Chapter 5. Ideal properties, conjugates, spectrum and numerical radii of narrow operators -- Chapter 6. Daugavet-type properties of Lebesgue and Lorentz spaces -- Chapter 7. Strict singularity versus narrowness --Chapter 8. Weak embeddings of L1 -- Chapter 9. Spaces X for which every operator T (Lp;X) is narrow -- Chapter 10. Narrow operators on vector lattices -- Chapter 11. Some variants of the notion of narrow operators -- Chapter 12. Open problems -- Bibliography -- Index of names -- Subject index Sommario/riassunto Most classes of operators that are not isomorphic embeddings are characterized by some kind of a "smallness" condition. Narrow operators are those operators defined on function spaces that are "small" at {-1,0,1}-valued functions, e.g. compact operators are narrow. The original motivation to consider such operators came from theory of

> embeddings of Banach spaces, but since then they were also applied to the study of the Daugavet property and to other geometrical problems

of functional analysis. The question of when a sum of two narrow operators is narrow, has led to deep developments of the theory of narrow operators, including an extension of the notion to vector lattices and investigations of connections to regular operators. Narrow operators were a subject of numerous investigations during the last 30 years. This monograph provides a comprehensive presentation putting them in context of modern theory. It gives an in depth systematic exposition of concepts related to and influenced by narrow operators, starting from basic results and building up to most recent developments. The authors include a complete bibliography and many attractive open problems.