Record Nr. UNINA9910780706903321 Autore Lukeš Jaroslav Titolo Integral representation theory [[electronic resource]]: applications to convexity, banach spaces and potential theory / / Jaroslav Lukes ... [et al.1 Berlin; New York, : Walter de Gruyter, c2010 Pubbl/distr/stampa **ISBN** 1-282-71436-8 9786612714368 3-11-020321-9 Descrizione fisica 1 online resource (731 p.) Collana De Gruyter studies in mathematics;; 35 SK 600 Classificazione Altri autori (Persone) LukesJaroslav <1940-> Disciplina 515.7 Soggetti Functional analysis Convex domains Banach spaces Potential theory (Mathematics) Integral representations Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Description based upon print version of record. Note generali Nota di bibliografia Includes bibliographical references and index. Nota di contenuto Frontmatter -- Contents -- 1 Prologue -- 2 Compact convex sets -- 3 Choquet theory of function spaces -- 4 Affine functions on compact convex sets -- 5 Perfect classes of functions and representation of affine functions -- 6 Simplicial function spaces -- 7 Choquet theory of function cones -- 8 Choquet-like sets -- 9 Topologies on boundaries -- 10 Deeper results on function spaces and compact convex sets --11 Continuous and measurable selectors -- 12 Constructions of function spaces -- 13 Function spaces in potential theory and the Dirichlet problem -- 14 Applications -- Backmatter Sommario/riassunto This monograph presents the state of the art of convexity, with an emphasis to integral representation. The exposition is focused on Choquet's theory of function spaces with a link to compact convex sets. An important feature of the book is an interplay between various mathematical subjects, such as functional analysis, measure theory, descriptive set theory, Banach spaces theory and potential theory. A

substantial part of the material is of fairly recent origin and many

results appear in the book form for the first time. The text is self-contained and covers a wide range of applications. From the contents: Geometry of convex sets Choquet theory of function spaces Affine functions on compact convex sets Perfect classes of functions and representation of affine functions Simplicial function spaces Choquet's theory of function cones Topologies on boundaries Several results on function spaces and compact convex sets Continuous and measurable selectors Construction of function spaces Function spaces in potential theory and Dirichlet problem Applications