

1. Record Nr.	UNINA9910483467303321
Autore	Toland John
Titolo	The Dual of $L(X, L)$, Finitely Additive Measures and Weak Convergence : A Primer / / by John Toland
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2020
ISBN	3-030-34732-X
Edizione	[1st ed. 2020.]
Descrizione fisica	1 online resource (104 pages)
Collana	SpringerBriefs in Mathematics, , 2191-8198
Disciplina	515.43 515.42
Soggetti	Measure theory Functional analysis Calculus of variations Sequences (Mathematics) Measure and Integration Functional Analysis Calculus of Variations and Optimal Control; Optimization Sequences, Series, Summability
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	1 Introduction -- 2 Notation and Preliminaries -- 3 L and its Dual -- 4 Finitely Additive Measures -- 5 G : 0-1 Finitely Additive Measures -- 6 Integration and Finitely Additive Measures -- 7 Topology on G -- 8 Weak Convergence in $L(X, L)$ -- 9 L^* when X is a Topological Space -- 10 Reconciling Representations -- References -- Index.
Sommario/riassunto	In measure theory, a familiar representation theorem due to F. Riesz identifies the dual space $L_p(X, L)^*$ with $L_q(X, L)$, where $1/p + 1/q = 1$, as long as $1 < p < \infty$. However, $L(X, L)^*$ cannot be similarly described, and is instead represented as a class of finitely additive measures. This book provides a reasonably elementary account of the representation theory of $L(X, L)^*$, examining pathologies and paradoxes, and uncovering some surprising consequences. For instance, a necessary and sufficient condition for a bounded sequence in $L(X, L)$ to be weakly convergent, applicable in the one-point compactification of X , is

given. With a clear summary of prerequisites, and illustrated by examples including $L(R^n)$ and the sequence space l , this book makes possibly unfamiliar material, some of which may be new, accessible to students and researchers in the mathematical sciences.
