1.	Record Nr.	UNINA9910823735903321
	Autore	Appell Jurgen
	Titolo	Bounded variation and around / / Jurgen Appell, Jozef Banas, Nelson Merentes
	Pubbl/distr/stampa	Berlin : , : Walter de Gruyter GmbH & Co. KG, , [2014] ©2014
	ISBN	3-11-026511-7
	Descrizione fisica	1 online resource (488 p.)
	Collana	De Gruyter Series in Nonlinear Analysis and Applications ; ; 17
	Classificazione	SK 600
	Altri autori (Persone)	BanasJozef <1950-> MerentesNelson
	Disciplina	515/.8
	Soggetti	Functions of bounded variation
	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 index.
	Nota di contenuto	Front matter -- Preface -- Contents -- Introduction -- 0. Prerequisites -- 1. Classical BV-spaces -- 2. Nonclassical BV-spaces -- 3. Absolutely continuous functions -- 4. Riemann-Stieltjes integrals -- 5. Nonlinear composition operators -- 6. Nonlinear superposition operators -- 7. Some applications -- References -- List of functions -- List of symbols -- Index -- Back matter
	Sommario/riassunto	The aim of this monograph is to give a thorough and self-contained account of functions of (generalized) bounded variation, the methods connected with their study, their relations to other important function classes, and their applications to various problems arising in Fourier analysis and nonlinear analysis. In the first part the basic facts about spaces of functions of bounded variation and related spaces are collected, the main ideas which are useful in studying their properties are presented, and a comparison of their importance and suitability for applications is provided, with a particular emphasis on illustrative examples and counterexamples. The second part is concerned with (sometimes quite surprising) properties of nonlinear composition and superposition operators in such spaces. Moreover, relations with Riemann-Stieltjes integrals, convergence tests for Fourier series, and applications to nonlinear integral equations are discussed. The only prerequisite for understanding this book is a modest background in real analysis, functional analysis, and operator theory. It is addressed to

non-specialists who want to get an idea of the development of the theory and its applications in the last decades, as well as a glimpse of the diversity of the directions in which current research is moving. Since the authors try to take into account recent results and state several open problems, this book might also be a fruitful source of inspiration for further research.