Record Nr.	UNINA9910812130303321
Autore	Perestyuk Nikolai A.
Titolo	Differential equations with impulse effects : multivalued right-hand sides with discontinuities / / by Nikolai A. Perestyuk [et al.]
Pubbl/distr/stampa	Berlin ; ; Boston, : De Gruyter, c2011
ISBN	1-283-39862-1 9786613398628 3-11-021816-X
Edizione	[1st ed.]
Descrizione fisica	1 online resource (324 p.)
Collana	De Gruyter studies in mathematics, , 0179-0986 ; ; 40
Classificazione	SK 520
Altri autori (Persone)	PerestiukN. A (Nikolai Alekseevich)
Disciplina	515/.353
Soggetti	Impulsive differential equations
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 Introduction Notation Contents Chapter 1. Impulsive Differential Equations Chapter 2. Impulsive Differential Inclusions Chapter 3. Linear Impulsive Differential Inclusions Chapter 4. Linear Systems with Multivalued Trajectories Chapter 5. Method of Averaging in Systems with Pulse Action Chapter 6. Averaging of Differential Inclusions Chapter 7. Differential Equations with Discontinuous Right-Hand Side Appendix A. Some Elements of Set-Valued Analysis Appendix B. Differential Inclusions References Index
Sommario/riassunto	Significant interest in the investigation of systems with discontinuous trajectories is explained by the development of equipment in which significant role is played by impulsive control systems and impulsive computing systems. Impulsive systems are also encountered in numerous problems of natural sciences described by mathematical models with conditions reflecting the impulsive action of external forces with pulses whose duration can be neglected. Differential equations with set-valued right-hand side arise in the investigation of evolution processes in the case of measurement errors, inaccuracy or incompleteness of information, action of bounded perturbations, violation of unique solvability conditions, etc. Differential inclusions also allow one to describe the dynamics of controlled processes and are

1.

widely used in the theory of optimal control. This monograph is devoted to the investigation of impulsive differential equations with set-valued and discontinuous right-hand sides. It is intended for researchers, lecturers, postgraduate students, and students of higher schools specialized in the field of the theory of differential equations, the theory of optimal control, and their applications.