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Autore	Martynyuk Anatoly A
Titolo	Qualitative Analysis of Set-Valued Differential Equations / / by Anatoly A. Martynyuk
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ISBN	3-030-07644-X
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Descrizione fisica	1 online resource (203 pages)
Disciplina	515.35
Soggetti	Differential equations
	System theory
	Ordinary Differential Equations
	Systems Theory, Control
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
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Nota di contenuto	General Properties of Set Equations Analysis of the Set of Continuous Equations Stability of the Set of Discrete-Time Systems Qualitative Analysis of Set Impulsive Equations Stability of Set Systems with Aftereect Analysis of Set Impulsive Systems with Aftereect Stability of Set Equations with Causal Operator Finite- Time Stability of Standard Systems Sets.
Sommario/riassunto	The book discusses set-valued differential equations defined in terms of the Hukuhara derivative. Focusing on equations with uncertainty, i. e., including an unknown parameter, it introduces a regularlization method to handle them. The main tools for qualitative analysis are the principle of comparison of Chaplygin – Wazhewsky, developed for the scalar, vector and matrix-valued Lyapunov functions and the method of nonlinear integral inequalities, which are used to establish existence, stability or boundedness. Driven by the question of how to model real processes using a set-valued of differential equations, the book lays the theoretical foundations for further study in this area. It is intended for experts working in the eld of qualitative analysis of differential and other types of equations.

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