Contents

Introduction					
No	otatio	n	X		
1	Impulsive Differential Equations		1		
	1.1	General Characterization of Systems of Impulsive Differential Equa-			
		tions	1		
	1.2	Linear Systems	23		
2	Impulsive Differential Inclusions 4				
	2.1	Differential Inclusions with Fixed Times of Pulse Action	42		
	2.2	Differential Inclusions with Nonfixed Times of Pulse Action	48		
	2.3	Examples	56		
3	Linear Impulsive Differential Inclusions				
	3.1	Statement of the Problem. Theorem on Existence and Uniqueness	66		
	3.2	Stability of Solutions of Linear Impulsive Differential Inclusions	72		
	3.3	Periodic Solutions of Linear Impulsive Differential Inclusions	88		
	3.4	Linear Differential Equations with Pulse Action at Indefinite Times	119		
4	Line	ear Systems with Multivalued Trajectories	124		
	4.1	Differential Equations with Hukuhara Derivative	124		
	4.2	Approximation of the Integral Funnel of a Linear Differential			
		Inclusion with the Help of Systems of Differential Equations			
		with Hukuhara Derivative	130		
	4.3	Linear Differential Equations with π -Derivative			
	4.4	Extension of the Space conv(\mathbb{R}^n) for $n = 1 \dots \dots \dots$	155		
	4.5	Approximation of the Integral Funnel of a Linear Differential			
		Inclusion with the Help of Systems of Differential Equations with			
		π -Derivative	159		
5	Met	hod of Averaging in Systems with Pulse Action	169		
	5.1	Oscillating System with One Degree of Freedom	169		
	5.2	Systems with Fixed Times of the Pulse Action	194		
	53	Systems with Nonfixed Times of the Pulse Action	204		



•	and the second s
KIV	Contents
	Contonts

6	Avei	raging of Differential Inclusions	220		
	6.1	Averaging of Inclusions with Pulses at Fixed Times	220		
	6.2	Krasnosel'skii-Krein Theorem for Differential Inclusions	229		
	6.3	Averaging of Inclusions with Pulses at Nonfixed Times	241		
	6.4	Averaging of Impulsive Differential Equations with Hukuhara			
		Derivative	250		
7	Diffe	erential Equations with Discontinuous Right-Hand Side	257		
	7.1	Motions and Quasimotions	257		
	7.2	Impulsive Motions and Quasimotions	270		
	7.3	Euler Quasibroken Lines	273		
A	Som	e Elements of Set-Valued Analysis	276		
В	Diffe	erential Inclusions	283		
Re	References				
Inc	Index				