Contents

Chapte	er 1 Intuitionistic Fuzzy Information Aggregation · · · · · · · · · · · · · · · · · · ·		
1.1	Intuitionistic Fuzzy Sets $\cdots 2$		
1.2	Operational Laws of Intuitionistic Fuzzy Numbers $\cdots \cdots 7$		
1.3	Intuitionistic Fuzzy Aggregation Operators · · · · · · · · · · · · · · · · · · ·		
1.4	Intuitionistic Fuzzy Bonferroni Means · · · · · 51		
1.5	Generalized Intuitionistic Fuzzy Aggregation Operators · · · · · · 69		
1.6	Intuitionistic Fuzzy Aggregation Operators Based on Choquet		
	$Integral \cdots \cdots 80$		
1.7	Induced Generalized Intuitionistic Fuzzy Aggregation Operators · · · · · · · 87		
Refe	rences98		
Chapte	er 2 Interval-Valued Intuitionistic Fuzzy Information		
	Aggregation 103		
2.1	Interval-Valued Intuitionistic Fuzzy Sets $\cdots \cdots 103$		
2.2	Operational Laws of Interval-Valued Intuitionistic Fuzzy Numbers $\cdots \cdots 104$		
2.3	Interval-Valued Intuitionistic Fuzzy Aggregation Operators · · · · · · · · 107		
2.4	Interval-Valued Intuitionistic Fuzzy Bonferroni Means $\cdots \cdots 125$		
2.5	Generalized Interval-Valued Intuitionistic Fuzzy Aggregation		
	Operators · · · · · · · · · · · · · · · · · · ·		
2.6	Interval-Valued Intuitionistic Fuzzy Aggregation Operators Based on		
	Choquet Integral $\cdots 135$		
2.7	Induced Generalized Interval-Valued Intuitionistic Fuzzy Aggregation		
	Operators · · · · · · · · · · · · · · · · · · ·		
Refe	rences · · · · · · · · 148		
Chapte	,		
	Intuitionistic Fuzzy Sets · · · · · · 151		
3.1	Correlation Measures of Intuitionistic Fuzzy Sets $\cdots \cdots 151$		
3.2	Distance and Similarity Measures of Intuitionistic Fuzzy Sets · · · · · · · · 162		
3.3	Distance and Similarity Measures of Interval-Valued Intuitionistic		
	Fuzzy Sets		
	3.3.1 Distance and Similarity Measures Based on Geometric Distance		
	Models · · · · · · · 175		
	3.3.2 Distance and Similarity Measures Based on Set-Theoretic		
	Approaches		



Ref	erence	5 · · · · · · · · · · · · · · · · · · ·
Chapt	er 4	Decision Making Models and Approaches Based on
		Intuitionistic Preference Relations · · · · · · 189
4.1	Intui	tionistic Preference Relations · · · · · · · · · · · · · · · · · · ·
4.2	Grou	up Decision Making Based on Intuitionistic Preference Relations \cdots 193
4.3	Inco	mplete Intuitionistic Preference Relations · · · · · · · 194
4.4 Group D		p Decision Making Based on Incomplete Intuitionistic Preference
	Rela	tions · · · · · · · · 196
4.5	Inter	val-Valued Intuitionistic Preference Relations · · · · · · · · · · · · · · · · 204
4.6 Group Decision Making Based on Inter		p Decision Making Based on Interval-Valued Intuitionistic
	Prefe	erence Relations · · · · · · · 206
4.7 Group Decision Making Based on Incomplete Interval-Valu		
	Intui	tionistic Preference Relations······208
4.8		i-Attribute Decision Making with Intuitionistic Fuzzy Preference
	Infor	mation on Alternatives······218
	4.8.1	Consistent Intuitionistic Preference Relations · · · · · · · 219
	4.8.2	Linear Programming Models with Intuitionistic Fuzzy Information $\cdots 220$
	4.8.3	Intuitionistic Fuzzy Decision Making Based on Linear Programming
		Models · · · · · · · · 226
4.9		i-Attribute Decision Making Based on Various Intuitionistic
	Prefe	erence Structures · · · · · · 231
	4.9.1	Multi-Attribute Decision Making Models Based on Intuitionistic
		Preference Relations · · · · · · 231
	4.9.2	Multi-Attribute Decision Making Models Based on Incomplete
		Intuitionistic Preference Relations · · · · · · 233
	4.9.3	Multi-Attribute Decision Making Models Based on Different Types of
		Intuitionistic Preference Relations · · · · · · 234
4.10		asistency Analysis on Group Decision Making with Intuitionistic
		ference Relations
4.11		asistency Analysis on Group Decision Making with Interval-Valued
		nitionistic Preference Relations · · · · · · · · · · · · · · · · · · ·
		245
Chapt	er 5	Projection Model-Based Approaches to Intuitionistic
<u>Ľ</u> 1	λ/ι14	Fuzzy Multi-Attribute Decision Making
5.1		i-Attribute Decision Making with Intuitionistic Fuzzy mation·······249
	111101	111401011

5.2	Multi-Attribute Decision Making with Interval-Valued Intuitionistic		
	Fuzzy Information $\cdots 252$		
Refe	rences · · · · · · · · · · · · · · · · · · ·		
Chapte	er 6 Dynamic Intuitionistic Fuzzy Multi-Attribute		
	$\textbf{Decision Making} \cdots \cdots 259$		
6.1	Dynamic Intuitionistic Fuzzy Weighted Averaging Operators $\cdots\cdots 259$		
6.2	Dynamic Intuitionistic Fuzzy Multi-Attribute Decision Making · · · · · · · · 271		
6.3	Uncertain Dynamic Intuitionistic Fuzzy Multi-Attribute Decision		
	Making · · · · · · · · 274		
Refe	${\tt rences} \cdots \cdots 282$		
Chapte	er 7 Nonlinear Optimization Models for Multi-Attribute Group		
	Decision Making with Intuitionistic Fuzzy Information $\cdots 285$		
7.1	Nonlinear Optimization Models for Determining Decision Makers'		
	Weights285		
7.2	Extended Nonlinear Optimization Models in Interval-Valued Intuitionistic		
	Fuzzy Situations		
7.3	Numerical Analysis · · · · · 302		
Refe	rences · · · · · · · · · · · · · · · · · · ·		
$\mathbf{Index} \cdot$	$\cdots \cdots 305$		