Contents

1 Intuitionistic Preference Relations 1
1.1 Concepts and Operations 4
1.2 Estimation Algorithms for Acceptable Incomplete Intuitionistic Preference Relations 9
1.2.1 The Estimation Algorithm for an Acceptable Incomplete Intuitionistic Preference Relation with the Least Judgments 9
1.2.2 The Estimation Algorithm for Acceptable Incomplete Intuitionistic Preference Relations with More Known Judgments 11
1.2.3 Illustrative Example 15
1.3 Group Decision Making with Incomplete Interval-Valued Intuitionistic Preference Relations 23
1.3.1 Incomplete Interval-Valued Intuitionistic Preference Relations 24
1.3.2 A Procedure for Constructing an Interval-Valued Intuitionistic Preference Relation with Multiplicative Transitivity 29
1.3.3 An Approach to Group Decision Making with Incomplete Interval-Valued Intuitionistic Preference Relations 34
1.3.4 Example Illustration 39
1.4 Iterative Algorithms for Improving Consistency of Intuitionistic Preference Relations 43
1.4.1 Some Properties of a Multiplicative Consistent Intuitionistic Preference Relation 43
1.4.2 Improving Consistency of an Intuitionistic Preference Relation 47
1.4.3 Improving Consistency of Intuitionistic Preference Relations in Group Decision Making 49

Bibliografische Informationen
http://d-nb.info/1019305347

digitalisiert durch DEUTSCHE NATIONAL BIBLIOTHEK

1.5 Consistency and Consensus Improving Procedures of Interval-Valued Intuitionistic Preference Relations 60
1.5.1 A Property of Multiplicative Consistent Interval-Valued Intuitionistic Preference Relation 60
1.5.2 Construction of Multiplicative Consistent or Approximate Multiplicative Consistent Interval-Valued Intuitionistic Preference Relations 64
1.5.3 Consensus Improving Procedure of Interval-Valued Intuitionistic Preference Relations in Group Decision Making 69
1.6 Compatibility Analysis of Intuitionistic Preference Relations in Group Decision Making 79
1.6.1 Compatibility Analysis of Intuitionistic Preference Relations 79
1.6.2 Extended Results in Interval-Valued Intuitionistic Fuzzy Situations 83
1.6.3 Numerical Analysis 87
1.7 A Method for Estimating Attribute Weights from Intuitionistic Preference Relations 93
1.7.1 A New Concept of Consistent Intuitionistic Preference Relation 94
1.7.2 A Method for Estimating Attribute Weights 95
1.7.3 Illustrative Examples 97
1.8 An Error-Analysis-Based Method for the Priority of an Intuitionistic Preference Relation 100
1.8.1 Error Analysis 100
1.8.2 An Error-Analysis-Based Priority Method 101
1.8.3 Numerical Analysis 104
1.9 Ranking Alternatives Based on Intuitionistic Preference Relation 113
1.10 Intuitionistic Fuzzy Density-Based Aggregation Operators and Their Applications to Group Decision Making with Intuitionistic Preference Relations 130
1.10.1 Basic Concepts and Measures 130
1.10.2 Intuitionistic Fuzzy Density-Based Aggregation Operators 131
1.11 Preference Relations Based on Intuitionistic Multiplicative Information 146
1.11.1 Intuitionistic Multiplicative Preference Relation 148
1.11.2 Intuitionistic Multiplicative Aggregation Operators 154
1.11.3 Decision Making with Intuitionistic Multiplicative Preference Relation 166

1.12 Intuitionistic Multiplicative Group Decision Making with the Extended t-conorm and t-norm 173
1.12.1 Some Intuitionistic Multiplicative Operations Based on the Extended t-conorm and t-norm 173
1.12.2 Intuitionistic Multiplicative Aggregation Operators Based on the Extended t-conorms and t-norms 179
1.12.3 Some Aggregation Operators Reflecting the Correlations of the Aggregated Arguments 185
1.12.4 An Approach to Group Decision Making with Inutionistic Multiplicative Preference Relations 189

2 Interactive Intuitionistic Fuzzy Multi-Attribute Decision Making 195
2.1 Interactive Intuitionistic Fuzzy Multi-Attribute Decision Making by Identifying and Eliminating Dominated Alternatives 198
2.2 Interactive Intuitionistic Fuzzy Multi-Attribute Decision Making Based on Nonlinear Optimization Models 207
2.2.1 A Satisfaction-Degree-Based Method 207
2.2.2 An Interactive Method 212
2.2.3 Extended Results in Interval-Valued Intuitionistic Fuzzy Situations 216

References 225