

Isomorphism On Irregular Fuzzy Graphs

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Graph-Theoretic Problems and Their New Applications - Frank Werner 2020-05-27

Graph theory is an important area of applied mathematics with a broad spectrum of applications in many fields. This book results from a Special Issue in the journal Mathematics entitled "Graph-Theoretic Problems and Their New Applications". It contains 20 articles covering a broad spectrum of graph-theoretic works that were selected from 151 submitted papers after a thorough refereeing process. Among others, it includes a deep survey on mixed graphs and their use for solutions to scheduling problems. Other subjects include topological indices, domination numbers of graphs, domination games, contraction mappings, and neutrosophic graphs. Several applications of graph theory are discussed, e.g., the use of graph theory in the context of molecular processes.

Computational Sciences - Modelling, Computing and Soft Computing - Ashish Awasthi 2021-07-27

This book constitutes revised and selected papers of the First International Conference on Computational Sciences - Modelling, Computing and Soft Computing, held in Kozhikode, Kerala, India, in September 2020. The 15 full papers and 6 short papers presented were thoroughly reviewed and selected from the 150 submissions. They are organized in the topical sections on computing; soft computing; general computing; modelling.

Annals of Fuzzy Mathematics and Informatics, Volume 14, No. 1, 2017, Special issue on "Neutrosophic Sets and their Applications" - Kul

Hur

The authors and co-authors, listed in the order of their published neutrosophic papers:

Muhammad Akram, Muzzamal Sitara, A. A. A. Agboola, B. Davvaz, F. Smarandache, Ali Hassan, Muhammad Aslam Malik, Said Broumi, Assia Bakali, Mohamed Talea, K. Hur, P. K. Lim, J. G. Lee, J. Kim, Young Bae Jun, Maryam Nasir, and A. Borumand Saeid, would like to thank Prof. Kul Hur, the Editor-in-Chief of the international journal *Annals of Fuzzy Mathematics and Informatics (AFMI)*, for dedicating the whole Vol. 14, No.1, published on 25 July 2017, to the neutrosophic theories and applications. The papers included in this volume are especially referring to neutrosophic (single-valued and interval-valued) graphs and bipolar graphs, and their applications in multi-criteria decision making (MCDM), and to neutrosophic algebraic structures, such as: category of neutrosophic crisp sets, neutrosophic quadruple algebraic hyperstructures, and neutrosophic subalgebras of BCK/BCI-algebras. We would also like to bring our gratitude to many reviewers of the neutrosophic community, from around the world, community that has grown to over eight hundred peoples (students, faculty, and researchers).

Ich bin eine seltsame Schleife - Douglas R. Hofstadter 2008

Documentation Abstracts - 1991

Fuzzy Intelligent Systems - E.

Chandrasekaran 2021-09-08

FUZZY INTELLIGENT SYSTEMS A

comprehensive guide to Expert Systems and Fuzzy Logic that is the backbone of artificial intelligence. The objective in writing the book is to foster advancements in the field and help disseminate results concerning recent applications and case studies in the areas of fuzzy logic, intelligent systems, and web-based applications among working professionals and those in education and research covering a broad cross section of technical disciplines. Fuzzy Intelligent Systems: Methodologies, Techniques, and Applications comprises state-of-the-art chapters detailing how expert systems are built and how the fuzzy logic resembling human reasoning, powers them. Engineers, both current and future, need systematic training in the analytic theory and rigorous design of fuzzy control systems to keep up with and advance the rapidly evolving field of applied control technologies. As a consequence, expert systems with fuzzy logic capabilities make for a more versatile and innovative handling of problems. This book showcases the combination of fuzzy logic and neural networks known as a neuro-fuzzy system, which results in a hybrid intelligent system by combining a human-like reasoning style of neural networks. Audience Researchers and students in computer science, Internet of Things, artificial intelligence, machine learning, big data analytics and information and communication technology-related fields. Students will gain a thorough understanding of fuzzy control systems theory by mastering its contents.

Critical Review, Vol. 13, 2016 - Ali Hassan, Muhammad Aslam Malik, Florentin Smarandache, Said Broumi, Assia Bakali, Mohamed Talea, Kalyan Mondal, Surapati Pramanik

The following articles have been published: Regular and Totally Regular Interval Valued Neutrosophic Hypergraphs; Isomorphism of Single Valued Neutrosophic Hypergraphs; Isomorphism of Interval Valued Neutrosophic Hypergraphs; An Isolated Interval Valued Neutrosophic Graphs; Isomorphism of Bipolar Single Valued Neutrosophic Hypergraphs; Subtraction and Division of Neutrosophic Numbers; Rough Neutrosophic Hyper-complex set and its Application to Multi-Attribute Decision Making.

A Study of Regular and Irregular Neutrosophic Graphs with Real Life Applications - Liangsong Huang

Fuzzy graph theory is a useful and well-known tool to model and solve many real-life optimization problems. Since real-life problems are often uncertain due to inconsistent and indeterminate information, it is very hard for an expert to model those problems using a fuzzy graph. A neutrosophic graph can deal with the uncertainty associated with the inconsistent and indeterminate information of any real-world problem, where fuzzy graphs may fail to reveal satisfactory results.

Index to IEEE Publications - Institute of Electrical and Electronics Engineers 1996

The book of GENESIS - 2018

Cognitive Psychology - Nick Braisby 2012-03
Rev. ed. of: Cognitive psychology: a methods companion. c2005.

Implementation Patterns - Studentenausgabe - Kent Beck 2010

m-Polar Fuzzy Graphs - Muhammad Akram 2018-11-13

This book provides readers with an introduction to m-polar fuzzy graphs and m-polar fuzzy hypergraphs, covering both theories and applications. A special emphasis is given to m-polar fuzzy graphs at the aim of filling a gap in the literature, namely the absence of a mathematical approach to analyze multi-index, multipolar, and multi-attribute data. The book describes metrics and labeling in m-polar graphs, m-polar fuzzy matroids. It also discusses in detail important applications in decision-making problems and imaging processing. The book is expected to stimulate the curiosity of mathematicians, computer scientists, and social scientists alike, and to provide both students and researchers with the necessary knowledge to understand and apply m-polar fuzzy graph theory.

Reguläre Ausdrücke Kochbuch - Jan Goyvaerts 2010

Für Entwickler, die regelmässig mit Texten arbeiten, sind reguläre Ausdrücke so lebensnotwendig wie die Luft zum Atmen. Doch wer sich nur oberflächlich mit diesem Hilfsmittel

auskennt, gerat leicht in unangenehme Situationen. Selbst erfahrene Programmierer haben immer wieder mit schlechter Performance, falsch positiven oder falsch negativen Ergebnissen und unerklärlichen Fehlern zu kämpfen. Dieses Kochbuch schafft Abhilfe: Anhand von über 100 Rezepten für C#, Java, JavaScript, Perl, PHP, Python, Ruby und VB.NET lernen Sie, wie Sie reguläre Ausdrücke gekonnt einsetzen, typische Fallen umgehen und so viel wertvolle Zeit sparen. Mit Tutorial für Anfänger: Falls Sie noch nicht oder nur wenig mit regulären Ausdrücken gearbeitet haben, dienen Ihnen die ersten Kapitel dieses Buchs als Tutorial, das Sie mit den Grundlagen der Regexes und empfehlenswerten Tools vertraut macht. So sind Sie für die komplexeren Beispiele in den darauf folgenden Kapiteln bestens gerüstet. Tricks und Ideen für Profis: Auch erfahrene Regex-Anwender kommen ganz auf ihre Kosten: Jan Goyvaerts und Steven Levithan, zwei anerkannte Grossen im Bereich reguläre Ausdrücke, gewahren tiefe Einblicke in ihren Erfahrungsschatz und überraschen mit eleganten Lösungen für fast jede denkbare Herausforderung. Deckt die unterschiedlichen Programmiersprachen ab: In allen Rezepten werden Regex-Optionen sowie Varianten für die verschiedenen Programmier- und Skriptsprachen aufgezeigt. Damit lassen sich sprachenspezifische Bugs sicher vermeiden." *Mathematical Reviews* - 2008

Graphentheorie. - Frank Harary 1974-01

Single-Valued Neutrosophic Graphs -

Muhammad Akram 2018-12-30

This book addresses single-valued neutrosophic graphs and their applications. In addition, it introduces readers to a number of central concepts, including certain types of single-valued neutrosophic graphs, energy of single-valued neutrosophic graphs, bipolar single-valued neutrosophic planar graphs, isomorphism of intuitionistic single-valued neutrosophic soft graphs, and single-valued neutrosophic soft rough graphs. Divided into eight chapters, the book seeks to remedy the lack of a mathematical approach to indeterminate and inconsistent information. Chap. 1 presents a concise review of single-valued neutrosophic sets, while Chap. 2

explains the notion of neutrosophic graph structures and explores selected properties of neutrosophic graph structures. Chap. 3 discusses specific bipolar neutrosophic graphs. Chap. 4 highlights the concept of interval-valued neutrosophic graphs, while Chap. 5 presents certain notions concerning interval-valued neutrosophic graph structures. Chap. 6 addresses the concepts of rough neutrosophic digraphs and neutrosophic rough digraphs. Chap. 7 focuses on the concepts of neutrosophic soft graphs and intuitionistic neutrosophic soft graphs, before Chap. 8 rounds out the book by considering neutrosophic soft rough graphs. *Hybrid Soft Computing Models Applied to Graph Theory* - Muhammad Akram 2019-04-05
This book describes a set of hybrid fuzzy models showing how to use them to deal with incomplete and/or vague information in different kind of decision-making problems. Based on the authors' research, it offers a concise introduction to important models, ranging from rough fuzzy digraphs and intuitionistic fuzzy rough models to bipolar fuzzy soft graphs and neutrosophic graphs, explaining how to construct them. For each method, applications to different multi-attribute, multi-criteria decision-making problems, are presented and discussed. The book, which addresses computer scientists, mathematicians, and social scientists, is intended as concise yet complete guide to basic tools for constructing hybrid intelligent models for dealing with some interesting real-world problems. It is also expected to stimulate readers' creativity thus offering a source of inspiration for future research.

[Neutrosophic Bipolar Vague Line Graph](#) - P.

Chitra Devi

Neutrosophic vague graphs are employed as a mathematical key to hold an imprecise and unspecified data. Vague sets gives more intuitive graphical notation of vague information, that delicately crucially better analysis in data relationships, incompleteness and similarity measures. In this paper, the neutrosophic bipolar vague line graphs are introduced. The necessary and sufficient condition for a line graph to be neutrosophic bipolar vague line graph is provided. Further, homomorphism, weak vertex and weak line isomorphism are discussed. The given results are illustrated with

suitable example.

International Encyclopedia of Systems and Cybernetics - Charles François 2004-01-01

Science Abstracts - 1995

Advanced Topics in Fuzzy Graph Theory - John N. Mordeson 2018-12-13

This book builds on two recently published books by the same authors on fuzzy graph theory. Continuing in their tradition, it provides readers with an extensive set of tools for applying fuzzy mathematics and graph theory to social problems such as human trafficking and illegal immigration. Further, it especially focuses on advanced concepts such as connectivity and Wiener indices in fuzzy graphs, distance, operations on fuzzy graphs involving t-norms, and the application of dialectic synthesis in fuzzy graph theory. Each chapter also discusses a number of key, representative applications. Given its approach, the book provides readers with an authoritative, self-contained guide to – and at the same time an inspiring read on – the theory and modern applications of fuzzy graphs. For newcomers, the book also includes a brief introduction to fuzzy sets, fuzzy relations and fuzzy graphs.

Scientific and Technical Aerospace Reports - 1991

Special types of bipolar single valued neutrosophic graphs - Ali Hassan

Neutrosophic theory has many applications in graph theory, bipolar single valued neutrosophic graphs (BSVNGs) is the generalization of fuzzy graphs and intuitionistic fuzzy graphs, SVN_Gs. Encyclopaedia of Mathematics, Supplement III - Michiel Hazewinkel 2007-11-23

This is the third supplementary volume to Kluwer's highly acclaimed twelve-volume Encyclopaedia of Mathematics. This additional volume contains nearly 500 new entries written by experts and covers developments and topics not included in the previous volumes. These entries are arranged alphabetically throughout and a detailed index is included. This supplementary volume enhances the existing twelve volumes, and together, these thirteen volumes represent the most authoritative, comprehensive and up-to-date Encyclopaedia of

Mathematics available.

Isomorphism of Single Valued Neutrosophic Hypergraphs - Muhammad Aslam Malik

In this paper, we introduce the homomorphism, weak isomorphism, co-weak isomorphism, and isomorphism of single valued neutrosophic hypergraphs. The properties of order, size and degree of vertices, along with isomorphism, are included. The isomorphism of single valued neutrosophic hypergraphs equivalence relation and of weak isomorphism of single valued neutrosophic hypergraphs partial order relation is also verified.

Contemporary Computing - Srinivas Aluru 2011-07-06

This volume constitutes the refereed proceedings of the Fourth International Conference on Contemporary Computing, IC3 2010, held in Noida, India, in August 2011. The 58 revised full papers presented were carefully reviewed and selected from 175 submissions.

Toward Humanoid Robots: The Role of Fuzzy Sets - Cengiz Kahraman 2021-04-04

This book offers a comprehensive reference guide for modeling humanoid robots using intelligent and fuzzy systems. It provides readers with the necessary intelligent and fuzzy tools for controlling humanoid robots by incomplete, vague, and imprecise information or insufficient data, where classical modeling approaches cannot be applied. The respective chapters, written by prominent researchers, explain a wealth of both basic and advanced concepts including fuzzy control, metaheuristic-based control, neutrosophic control, etc. To foster reader comprehension, all chapters include relevant numerical examples or case studies. Taken together, they form an excellent reference guide for researchers, lecturers, and postgraduate students pursuing research on humanoid robots. Moreover, by extending all the main aspects of humanoid robots to its intelligent and fuzzy counterparts, the book presents a dynamic snapshot of the field that is expected to stimulate new directions, ideas, and developments.

Isomorphism of Bipolar Single Valued Neutrosophic Hypergraphs - Muhammad Aslam Malik

In this paper, we introduce the homomorphism, the weak isomorphism, the co-weak

isomorphism, and the isomorphism of the bipolar single valued neutrosophic hypergraphs. The properties of order, size and degree of vertices are discussed. The equivalence relation of the isomorphism of the bipolar single valued neutrosophic hypergraphs and the weak isomorphism of bipolar single valued neutrosophic hypergraphs, together with their partial order relation, is also verified.

Fuzzy Mathematics - Etienne E. Kerre
2018-11-28

This book is a printed edition of the Special Issue "Fuzzy Mathematics" that was published in Mathematics

MATHEMATICAL COMBINATORICS, Vol. 4 / 2018 - Linfan Mao

The Mathematical Combinatorics (International Book Series) is a fully refereed international book series with ISBN number on each issue, sponsored by the MADIS of Chinese Academy of Sciences and published in USA quarterly comprising 110-160 pages approx. per volume, which publishes original research papers and survey articles in all aspects of Smarandache multi-spaces, Smarandache geometries, mathematical combinatorics, non-euclidean geometry and topology and their applications to other sciences.

Encyclopedia of Optimization - Christodoulos A. Floudas 2008-09-04

The goal of the Encyclopedia of Optimization is to introduce the reader to a complete set of topics that show the spectrum of research, the richness of ideas, and the breadth of applications that has come from this field. The second edition builds on the success of the former edition with more than 150 completely new entries, designed to ensure that the reference addresses recent areas where optimization theories and techniques have advanced. Particularly heavy attention resulted in health science and transportation, with entries such as "Algorithms for Genomics", "Optimization and Radiotherapy Treatment Design", and "Crew Scheduling".

Some Root Level Modifications in Interval Valued Fuzzy Graphs and Their Generalizations Including Neutrosophic Graphs - Naeem Jan
Fuzzy graphs (FGs) and their generalizations have played an essential role in dealing with real-life problems involving uncertainties. The

goal of this article is to show some serious flaws in the existing definitions of several root-level generalized FG structures with the help of some counterexamples. To achieve this, first, we aim to improve the existing definition for interval-valued FG, interval-valued intuitionistic FG and their complements, as these existing definitions are not well-defined; i.e., one can obtain some senseless intervals using the existing definitions. The limitations of the existing definitions and the validity of the new definitions are supported with some examples.

Handbook of Research on Advances and Applications of Fuzzy Sets and Logic - Broumi, Said 2022-03-04

Fuzzy logic, which is based on the concept of fuzzy set, has enabled scientists to create models under conditions of imprecision, vagueness, or both at once. As a result, it has now found many important applications in almost all sectors of human activity, becoming a complementary feature and supporter of probability theory, which is suitable for modelling situations of uncertainty derived from randomness. Fuzzy mathematics has also significantly developed at the theoretical level, providing important insights into branches of traditional mathematics like algebra, analysis, geometry, topology, and more. With such widespread applications, fuzzy sets and logic are an important area of focus in mathematics. The Handbook of Research on Advances and Applications of Fuzzy Sets and Logic studies recent theoretical advances of fuzzy sets and numbers, fuzzy systems, fuzzy logic and their generalizations, extensions, and more. This book also explores the applications of fuzzy sets and logic applied to science, technology, and everyday life to further provide research on the subject. This book is ideal for mathematicians, physicists, computer specialists, engineers, practitioners, researchers, academicians, and students who are looking to learn more about fuzzy sets, fuzzy logic, and their applications.

Boolesche Algebra und ihre Anwendungen - John Eldon Whitesitt 2013-03-09

Graphs for the Analysis of Bipolar Fuzzy Information - Muhammad Akram 2020-11-02
This monograph discusses decision making methods under bipolar fuzzy graphical models

with the aim of overcoming the lack of mathematical approach towards bipolar information—positive and negative. It investigates the properties of bipolar fuzzy graphs, their distance functions, and concept of their isomorphism. It presents certain notions, including irregular bipolar fuzzy graphs, domination in bipolar fuzzy graphs, bipolar fuzzy circuits, energy in bipolar fuzzy graphs, bipolar single-valued neutrosophic competition graphs, and bipolar neutrosophic graph structures. This book also presents the applications of mentioned concepts to real-world problems in areas of product manufacturing, international relations, psychology, global terrorism and more, making it valuable for researchers, computer scientists, social scientists and alike.

International Journal of Mathematical Combinatorics, Volume 4, 2018 - Linfan Mao

The mathematical combinatorics is a subject that applying combinatorial notion to all mathematics and all sciences for understanding the reality of things in the universe. The International J. Mathematical Combinatorics is a fully refereed international journal, sponsored by the MADIS of Chinese Academy of Sciences and published in USA quarterly, which publishes original research papers and survey articles in all aspects of mathematical combinatorics, Smarandache multi-spaces, Smarandache geometries, non-Euclidean geometry, topology and their applications to other sciences.

Handbuch Inklusion international / International Handbook of Inclusive Education - Andreas Köpfer 2021-01-25

Globales Paradigma, nationale Normen und lokale Praxen. Das Handbuch Inklusion international verbindet theoretische Entwicklungslinien und vielfältige vergleichende Perspektiven der Inklusiven Bildung in ihrer globalen Verbreitung. Die Beiträge bieten einen umfassenden Zugang zu internationalen Diskursen, vergleichenden Forschungsergebnissen und ‚inspiring practices‘ aus diversen Weltregionen - Europa, Afrika, Asien und Nordamerika. Besondere Aufmerksamkeit wird dabei der Relevanz komparativer Studien gewidmet.

Fuzzy Graph Theory - Sunil Mathew 2017-12-30

This book provides a timely overview of fuzzy graph theory, laying the foundation for future applications in a broad range of areas. It introduces readers to fundamental theories, such as Craine’s work on fuzzy interval graphs, fuzzy analogs of Marczewski’s theorem, and the Gilmore and Hoffman characterization. It also introduces them to the Fulkerson and Gross characterization and Menger’s theorem, the applications of which will be discussed in a forthcoming book by the same authors. This book also discusses in detail important concepts such as connectivity, distance and saturation in fuzzy graphs. Thanks to the good balance between the basics of fuzzy graph theory and new findings obtained by the authors, the book offers an excellent reference guide for advanced undergraduate and graduate students in mathematics, engineering and computer science, and an inspiring read for all researchers interested in new developments in fuzzy logic and applied mathematics.

Modern Trends in Fuzzy Graph Theory - Madhumangal Pal 2020-11-02

This book provides an extensive set of tools for applying fuzzy mathematics and graph theory to real-life problems. Balancing the basics and latest developments in fuzzy graph theory, this book starts with existing fundamental theories such as connectivity, isomorphism, products of fuzzy graphs, and different types of paths and arcs in fuzzy graphs to focus on advanced concepts such as planarity in fuzzy graphs, fuzzy competition graphs, fuzzy threshold graphs, fuzzy tolerance graphs, fuzzy trees, coloring in fuzzy graphs, bipolar fuzzy graphs, intuitionistic fuzzy graphs, m-polar fuzzy graphs, applications of fuzzy graphs, and more. Each chapter includes a number of key representative applications of the discussed concept. An authoritative, self-contained, and inspiring read on the theory and modern applications of fuzzy graphs, this book is of value to advanced undergraduate and graduate students of mathematics, engineering, and computer science, as well as researchers interested in new developments in fuzzy logic and applied mathematics.