

Preface

This abstract booklet includes the abstracts of the papers that have been presented at II. Inter-

national Conference on Mathematics and its Applications in Science and Engineering (ICMASE

2021) which is held in University of Salamanca, Spain between 1-2 July, 2021, via online because

of COVID-19 pandemic. The aim of this conference is to exchange ideas, discuss developments in

mathematics, develop collaborations and interact with professionals and researchers from all over

the world about some of the following interesting topics: Functional Analysis, Approximation

Theory, Real Analysis, Complex Analysis, Harmonic and non-Harmonic Analysis, Applied Anal-

ysis, Numerical Analysis, Geometry, Topology and Algebra, Modern Methods in Summability

and Approximation, Operator Theory, Fixed Point Theory and Applications, Sequence Spaces and

Matrix Transformation, Modern Methods in Summability and Approximation, Spectral Theory

and Diferantial Operators, Boundary Value Problems, Ordinary and Partial Differential Equations,

Discontinuous Differential Equations, Convex Analysis and its Applications, Optimization and its

Application, Mathematics Education, Applications on Variable Exponent Lebesgue Spaces, Appli-

cations on Differential Equations and Partial Differential Equations, Fourier Analysis, Wavelet and

Harmonic Analysis Methods in Function Spaces, Applications on Computer Engineering, Flow

Dynamics. However, the talks are not restricted to these subjects.

Thanks to all committee members.

We wish everyone a fruitful conference and pleasant memories from ICMASE 2021.

Prof. Dr. Araceli QUEIRUGA-DIOS,

Assoc. Prof. Dr. Fatih YILMAZ

Chairs, ICMASE 2021

ii

01-12 July 2021, Universidad de Salamanca

Honory and Advisory Board

Prof. Dr. José Miguel MATEOS ROCO, Vice Chancellor for Research and Transfer, University of Salamanca, (Spain)

Prof. Dr. Yusuf TEKİN, Rector of Ankara Hacı Bayram Veli University, (Turkey)

Organizing Committee

Araceli QUEIRUGA-DIOS, Salamanca University, (Spain) (Conference Chair)

Fatih YILMAZ, Ankara Hacı Bayram Veli University, (Turkey) (Organizing Chair)

Deolinda RASTEIRO, Coimbra Engineering Institute-ISEC, (Portugal)

Emel KARACA, Ankara Hacı Bayram Veli University, (Turkey)

Jesús Martin-VAQUERO, Salamanca University, (Spain)

María Jesús Santos SANCHEZ, Salamaca University, (Spain)

Melek SOFYALIOĞLU, Ankara Hacı Bayram Veli University, (Turkey)

Mücahit AKBIYIK, Beykent University, (Turkey)

Mustafa ÖZKAN, Gazi University, (Turkey)

Seda Yamaç AKBIYIK, İstanbul Gelişim University, (Turkey)

Víctor Gayoso MARTINEZ, Spanish National Research Council, (Spain)

Invited Speakers

Carla M. A. PINTO, School of Engineering Polytechnic of Porto, (Portugal)

Miguel Angel Gonzalez LEON, University of Salamanca, (Spain)

Tin-Yau TAM, University of Nevada, (USA)

Scientific Committee

Agustín Martín MUNOZ, Spanish National Research Council, (Spain)

Abdullah ALAZEMI, Kuwait University, (Kuwait)

Alexander KUSHPEL, Cankaya University, (Turkey)

Arihant JAIN, Shanxi Normal University, (P. R. China)

Ascensión Hernández ENCINAS, University of Salamanca, (Spain)

Ayman BADAWI, American University of Sharjah, (UAE)

Aynur Keskin KAYMAKÇI, Selçuk University, (Turkey)

Bipan HAZARIKA, Gauhati University, (India)

Carlos Martins da FONSECA, Kuwait College of Science and Technology, (Kuwait)

Cristina R. M. CARIDADE, Instituto Superior de Engenharia de Coimbra, (Portugal)

Daniela RICHTARIKOVA, Slovak University of Technology in Bratislava, (Slovakia)

Daniela VELICHOVA, Slovak University of Technology, (Slovakia)

Dursun TAŞÇI, Gazi University, (Turkey)

Emília BIGOTTE, Instituto Superior de Engenharia de Coimbra, (Portugal)

Gheorghe MOROSANU, Babes-Bolyai University, (Romania)

Ion MIERLUS-MAZILU, Technical University of Civil Engineering Bucharest, (Romania)

Ji-Teng JIA, Xidian University, (China)

Kadir KANAT, Ankara Hacı Bayram Veli University, (Turkey)

Luis Hernández ENCINAS, Spanish National Research Council, (Spain)

Luis Hernández ÁLVAREZ, Spanish National Research Council, (Spain)

Marie DEMLOVA, Czech Technical University in Prague, (Czech Republic)

María José Cáceres GARCIA, Universidad de Salamanca, (Spain)

Michael CARR, Technological University Dublin, (Ireland)

Milica ANDJELIC, Kuwait University, (Kuwait)

Mohammad Sal MOSLEHIAN, Ferdowsi University of Mashad, (Iran)

Mustafa ÇALIŞKAN, Gazi University, (Turkey)

Nenad P. CAKIC, University of Belgrade, (Serbia)

Nursel ÇETİN, Ankara Hacı Bayram Veli University, (Turkey)

Praveen AGARWAL, Anand International College of Engineering, (India)

Sapna JAIN, Shanxi Normal University, (P. R. China)

Snezhana GOCHEVA-ILIEVA, University of Plovdiv Paisii Hilendarski, (Bulgaria)

Süha YILMAZ, Dokuz Eylül Üniversitesi, (Turkey)

Tomohiro SOGABE, Nagoya University, (Japan)

Vildan ÖZTÜRK, Ankara Hacı Bayram Veli University, (Turkey)

Zhibin DU, South China Normal University, (China)



SEMI-LATTICES AND CONGRUENCES IN ROUGH NEUTROSOPHIC SET MODEL

Ahmad Termimi Ab GHANI¹, Lazim ABDULLAH¹

¹Faculty of Ocean Engineering Technology and Informatics Universiti Malaysia Terengganu 21030, Malaysia

Corresponding Author's E-mail: termimi@umt.edu.my

ABSTRACT

In this study, we address rough neutrosophic sets from the set-theoretic point of view. In what follows, we give an analysis of abstract mathematical context on the notion of independence and then formulated in the language of semi-lattices and congruence. We consider a semi-lattice along with an equivalence relations with respect to semi-lattice operation. The final part of this study is the presentation of the notion of a dependence which will be an abstract counterpart of the notion of functional dependence.

Keywords Dependence space · Reducts · Approximation sets

References

- [1] Ameri, R., Hedayati, H. and Bandpey, Z.: Rough sets applied in sub-lattices and ideals of lattices. RATIO MATHEMATICA 29 3-14, 2015.
- [2] Ali, A.E. and Fereshteh, B.: On Rough Sets and Hyperlattices. Ratio Mathematica, Vol. 34, pp. 15-33, 2018.
- [3] Chellathurai, S.R. and Jesmalar, L.: Rough lattice and Core in Rough data set Lattice. Advances in Fuzzy Mathematics. ISSN 0973-533X Volume 11, Number 2, pp. 113-127, 2016.
- [4] Leech, J.: My journey into non-commutative lattices and their theory. The Art of Discrete and Applied Mathematics 2, P2.01, 2019.
- [5] Mustafa, H.I.: Soft Rough Approximation Operators on a Complete Atomic Boolean Lattice. Mathematical Problems in Engineering, Article, ID 486321, 11 pages, Volume 2013.
- [6] Mustafa. H.I.: On modified soft rough sets on a complete atomic Boolean lattice. Journal of the Egyptian Mathematical Society, 27:15, 2019.
- [7] Rasouli, S.: Rough Ideals Based On Ideal Determined Varieties. Algebraic Structures and Their Applications Vol. 6 No. 1 pp 1-21, 2019.

- [8] Sankar, K.R. and Susanta, B.: Distributive Lattice: A Rough Set Approach. Malaya J. Mat. 2(3) 273–276, 2014.
- [9] Susanta, B., Kumar Roy, S., Karaaslan, F. and Çağman, N.: Soft congruence relation over lattice. Journal of Mathematics and Statistics Volume 46 (6), 1035 1042, 2017.