

Prof. Dr. Muhammad Akram

Dean, Faculty of Sciences

BRIEF BIOGRAPHY

Muhammad Akram holds a Master of Science degree in Mathematics and Computer Science, a Master of Philosophy degree in Computational Mathematics, and a PhD in Fuzzy Mathematics. Dr. Akram is currently a Dean of Sciences at Punjab University, Lahore, <https://pu.edu.pk/home/faculty/10/science>. His academic contributions are also evident in his work on fuzzy numerical methods, fuzzy graphs, fuzzy algebra, and fuzzy decision support systems. He has achieved remarkable success, authoring 11 influential books in the field of fuzzy mathematics, all published by renowned publishers, and over 585 research papers in internationally acclaimed scientific journals. A Stanford University report shows that Dr. Akram has consistently ranked among the top 2% of scientists globally in the fields of artificial intelligence and image processing for several years (2020-2025). He received the 2023 Pakistan Academy of Sciences Gold Medal and the Punjab Higher Education Commission's Best Research Paper Award in 2024. Dr. Akram is an outstanding mentor, having successfully supervised 24 doctoral students and currently supervising 5 more. The Website of his Research Group is <https://pu.edu.pk/fmrg/>

RESEARCH PROFILE

● Number of Published Books by International Publishers	11
● Number of International recognized Journal publications	585
● Number of Publications Indexed in Scopus	577
● Number of Publications Indexed in Web of Science	510
● Number of International Book Chapters	09
● Number of Attended International Conferences	09
● H-index on Web of Science	60
● H-index on Scopus	65
● H-index on Google Scholar	80
● Number of Supervised Doctoral Students	24
● Reviewer/Referee for International Journals	156

Education

First class throughout academic career.

Ph.D, *GCU, Lahore.*

M. Phil Mathematics, *GCU, Lahore.*

M.Sc Mathematics, *University of the Punjab, Lahore.*

M.Sc Computer Science, *Balochistan University, Quetta.*

B.Sc, *University of the Punjab, Lahore.*

PROFESSIONAL EXPERIENCES

- 05 AUG.2024-
Present **Dean, Faculty of Sciences,** *University of the Punjab.*
- 19 DEC.2024-
Present **Chairman, Affiliation Committee,** *University of the Punjab.*
- 01JUN.2023-
23 DEC.2024 **Chairman, Department of Mathematics,** *University of the Punjab.*
- 23Nov.2014-
Present **Professor, Department of Mathematics,** *University of the Punjab.*
- 10May 2012-
22Nov.2014 **Associate Professor, Department of Mathematics,** *University of the Punjab.*
- 14Oct.2002-
9May
2012 **Assistant Professor, Punjab University College of Information Technology (PUCIT),** *Old Campus Lahore.*
- Sep.1997-
2001 **Lecturer/Coordinator of Mathematics, Center in Computer Excellence (Approved study Center of AIOU),** *Lahore.*
- 2003–2005 **Degree Supervisor of BS (CS) Program,** *PUCIT.*
- 2006-2010 **Chairman, Disciplinary Committee,** *PUCIT.*
- 2006-2010 **Chairman, Stock Taking Verification Committee,** *PUCIT.*
- 2010-2012 **Co-Chairman, Needy Based Scholarship Committee,** *PUCIT.*
- 2014-Present **Member, Departmental Doctoral Programme Committee.**
- 2014-Present **Member, Board of Studies in Mathematics,** *University of the Punjab.*
- 2015-Present **Member, University's Academic Council,** *University of the Punjab.*
- 2015-Present **Member, University's Senate,** *University of the Punjab.*
- 05AUG.2024-
Present **Member, Advanced Studies and Research Board,** *University of the Punjab.*
- 05AUG.2024-
Present **Convenor, Faculty of Sciences,** *University of the Punjab.*

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10APR.2025- **Member, University's Syndicate**, *University of the Punjab*.
Present

Financial Year **Chairman, Budget Rationalization Committee**, *University of the*
2026-27 *Punjab*.

Awards

- + Among World's Top 2 % Scientists for several years (2020-2025) in the field of Artificial Intelligence and Image Processing.
- + Won Second position in matriculation at Tahsil level and achieved merit scholarship from Gujranwala board.
- + Departmental Best Teacher Award for Year 2015.
- + Received Punjab University's Research Incentive Award for several consecutive years (2004-2024).
- + Won Gold Medal and Cash Prize from Pakistan Academy of Sciences for Year 2023.
- + Received the Best Research Article Award from the Punjab Higher Education Commission in 2024.

Research Grants

Won Research Grants of 1,929,056 Rupees under the Higher Education Commission's National Research Program for Universities (NRPU).

Teaching

I am teaching following modules:

- + Abstract Algebra
- + Linear Algebra
- + Graph Theory
- + Differential Equations
- + Numerical Analysis
- + Operations Research
- + Discrete Mathematics
- + Fuzzy Systems

RESEARCH INTERESTS

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- + Numerical methods for parabolic PDEs
- + Applications of fuzzy systems to numerical methods, graphs and algebraic structures
- + Fuzzy decision support / decision -making systems
- + Fuzzy linear programming models
- + Fuzzy numerical methods
- + Fuzzy-machine learning
- + Fuzzy-deep learning

Publications

A0. INTERNATIONAL BOOKS

1. **Akram, M.** and Arooj Adeel, Multiple Criteria Decision Making Methods with Multi-polar Fuzzy Information, Studies in Fuzziness and Soft Computing, Springer, DOI: 10.1007/9783-031-43636-9, **430**(2023).
2. **Akram, M.**, Shumaiza and Alcantud, JCR, *Multi-Criteria Decision Making Methods with Bipolar Fuzzy Sets*, Forum for Interdisciplinary Mathematics, Springer, 2023, pp. 214.
3. **Akram, M.**, Sarwar, M. and Dudek, W.A., *Graphs for the Analysis of Bipolar Fuzzy Information*, Studies in Fuzziness and Soft Computing, Springer, DOI: 10.1007/978-981-15-8756-6, **401**(2021).
4. **Akram, M.** and Luqman, A, *Fuzzy Hypergraphs and Related Extensions* , Studies in Fuzziness and Soft Computing, Springer, DOI: 10.1007/978-981-15-2403-5, **390**(2020).
5. **Akram, M.** and Zafar, F., *Hybrid Soft Computing Models Applied to Graph Theory*, Studies in Fuzziness and Soft Computing, Springer, DOI: 10.1007/978-3-030-16020-3, **380**(2020).
6. **Akram, M.**, *m-Polar Fuzzy Graphs*, Studies in Fuzziness and Soft Computing, Springer, DOI: 10.1007/978-3-030-03751-2, **371**(2019).
7. **Akram, M.**, *Fuzzy Lie Algebras*, Infosys Science Foundation Series in Mathematical Sciences, Springer, 2018, DOI: 10.1007/978-981-13-3221-0.
8. **Akram, M.**, *Single-Valued Neutrosophic Graphs*, Infosys Science Foundation Series in Mathematical Sciences, Springer, 2018, DOI: 10.1007/978-981-13-3522-8.
9. **Akram, M.** and Dar K. H., *Generalized fuzzy K-Algebras*, VDM Verlag, 2010, pp.288, ISBN 978-3-639-27095-2.
10. **Akram, M.**, *Bifuzzy K-Algebras*, VDM Verlag, 2010, pp.142, ISBN 978-3-639-28648-9.

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11. **Akram, M.**, *Computational Methods for Second-Order Parabolic equations*, VDM Verlag, 2010, pp.212 ISBN 978-3-639-2909-12.

A1. INTERNATIONAL BOOK CHAPTERS

1. Ali, G. and **Akram, M.**, *Group Decision-Making Analysis Under Interval-Valued q -rung Orthopair Fuzzy Soft Expert Sets*, In: Sahoo, L., Senapati, T., Yager, R.R. (eds) *Real Life Applications of Multiple Criteria Decision Making Techniques in Fuzzy Domain. Studies in Fuzziness and Soft Computing*, vol 420, 2023, Springer, Singapore.
2. Naz, S., **Akram, M.**, Fatima, A. and Nadeem, A., *q -Rung Orthopair Fuzzy 2-Tuple Linguistic Hamy Mean Operators for MAGDM with Modified EDAS Method*, In: Sahoo, L., Senapati, T., Yager, R.R. (eds) *Real Life Applications of Multiple Criteria Decision Making Techniques in Fuzzy Domain. Studies in Fuzziness and Soft Computing*, vol 420, 2023, Springer, Singapore.
3. Naz, S., **Akram, M.**, Feng, F. and Mahboob, A., *Group decision-making framework with generalized orthopair fuzzy 2-tuple linguistic information*, In: Garg, H. (eds) *q -Rung Orthopair Fuzzy Sets*. 2022, Springer, Singapore.
4. Naz, S., **Akram, M.** and Saeed, A., *A Hybrid Multiple-Attribute Decision-Making Model Under Complex Q -Rung Orthopair Fuzzy Hamy Mean Aggregation Operators*, In *Handbook of Research on Advances and Applications of Fuzzy Sets and Logic*, (149-191), 2022, IGI Global.
5. **Akram, M.** & Shabir, M., *Complex T -Spherical Fuzzy N -Soft Sets*, In: Kahraman C., Cebi S., Cevik Onar S., Oztaysi B., Tolga A.C., Sari I.U. (eds) *Intelligent and Fuzzy Techniques for Emerging Conditions and Digital Transformation. INFUS 2021. Lecture Notes in Networks and Systems*, vol 308. Springer, Cham. https://doi.org/10.1007/978-3-030-85577-2_95.
6. **Akram, M.**, Ali, M. and Allahviranloo, T., *Solution of Complex Bipolar Fuzzy Linear System*, In: Allahviranloo T., Salahshour S., Arica N. (eds) *Progress in Intelligent Decision Science. IDS 2020. Advances in Intelligent Systems and Computing*, vol 1301, 2021, Springer, Cham. https://doi.org/10.1007/978-3-030-66501-2_73.
7. **Akram, M.**, *Decision Making Method Based on Spherical Fuzzy Graphs*, In: Kahraman C., Otay I. (eds) *Spherical Fuzzy Sets Book. Studies in Fuzziness and Soft Computing*, 2020, Springer.
8. **Akram, M.**, Saleem, D. and Ghorai, G. *Energy of m -Polar Fuzzy Digraphs*, In: Pal M. *Advanced Applications of Graph Theory in Modern Society*, 2020, IGI Global.
9. **Akram, M.** and Shahzadi G., *Bipolar Neutrosophic Graphs*, In: Kahraman C., Otay I. (eds) *Fuzzy Multi-criteria Decision-Making Using Neutrosophic Sets. Studies in Fuzziness and Soft Computing*, **369**(2019), Springer.

B. ARTICLES IN INTERNATIONAL JOURNALS

1. Sultan, M., **Akram, M.** and Kahraman, C., *A fuzzy logic-driven machine learning framework for multi-class classification of students academic performance*, Knowledge-Based Systems, **116158**(2026), 114315. **IF=7.6**
2. **Akram, M.**, Ilyas, F., Al-Kenani, A. N. and Pamucar, D., *A hybrid interval rough regime framework for sustainable energy management: Optimal location selection of lithium-ion battery recovery centers*, Journal of Energy Storage, **148**(2026), 120451. **IF=9.8**
3. **Akram, M.**, Al-Shamiri, M. M. A., Azam, S. and Kahraman, C., *An outranking approach for selecting the best warehouse location in Konya using spherical fuzzy rough numbers*, Journal of Applied Mathematics and Computing, **72**(2026), 115008. **IF=2.7**
4. Khan, M. J., **Akram, M.**, Alreshidi, N.A. and Ding, W., *Construction of cosine-based intuitionistic fuzzy similarity measures: Applications in decision making and attribute reduction*, Expert Systems With Applications, 2026, 131324. **IF=7.5**
5. Alcantud, JCR, **Akram, M.** Santos-Garcia, G. and Ding, W. *A Choquet-based multi-expert decision-making methodology with N-soft sets*, Iranian Journal of Fuzzy Systems, **23** (1), 163-181(2026). **IF=1.2**
6. Ullah, I., **Akram, M.**, and Deveci, M., *An extended decision making method based on pythagorean fuzzy Z-numbers*, Cognitive Computation, **18**, 15 (2026). **IF=4.3**
7. **Akram, M.**, Ullah, I., Allahviranloo, T. and Shahriari, M., *An integrated weighted multi-criteria decision making method using Z-number and its application in failure modes and effect analysis*, Journal of Industrial Information Integration, **45**(2025), 100805. **IF=11.6**
8. Ullah, I., **Akram, M.** and Allahviranloo, T., *An outranking method with Dombi aggregation operators based on multi-polar fuzzy Z-numbers for selection of best rehabilitation center*, Journal of Industrial Information Integration, **44**(2025), 1000781. **IF=11.6**
9. **Akram, M.**, Sultan, M. and Kahraman, C., *Multi-criteria group decision-making with spherical fuzzy rough numbers for biomedical materials in hip prosthesis*, Journal of Industrial Information Integration, **44**(2025), 100766. **IF=11.6**
10. **Akram, M.**, Sultan, M. and Kahraman, C., *An integrated outranking technique with spherical fuzzy rough numbers for the treatment of cadmium-contaminated water problem in China*, Engineering Applications of Artificial Intelligence, **139**(2025), 109633. **IF=8.0**
11. Khan, M. J., Jiang, S., Ding, W. and **Akram, M.**, *Construction methods for entropy measures of circular intuitionistic fuzzy sets and their application*, Engineering Applications of Artificial Intelligence, **160**(2025), 111809. **IF=8.0**
12. Sarwar, M., Ali, G., Gulzar, W., **Akram, M.** and Pamucar, D., *Two-sided matching optimization model for green housing technology selection based on hesitant 2-tuple linguistic rough numbers*, Engineering Applications of Artificial Intelligence, **151**(2025), 1110559. **IF=8.0**

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13. **Akram, M.**, Azam, S., Mustafa, G. and Pamucar, D., *An integrated outranking approach for selecting the best waste water treatment process with spherical fuzzy rough numbers*, Engineering Applications of Artificial Intelligence, **144**(2025), 110115. **IF=8.0**
14. Sultan, M., **Akram, M.** and Kahraman, C., *Federated learning with integration of decision making method and various machine learning algorithms for Alzheimers's prediction*, Knowledge-Based Systems, **329**(2025), 114315. **IF=7.6**
15. **Akram, M.**, Batool, I. and Kahraman, C., *An explainable hybrid fuzzy-machine learning framework for multi-crop suitability classification using agro-environmental data*, Knowledge-Based Systems, **333**(2025), 115008. **IF=7.6**
16. Khan, M. J., Ding, W., Jiang, S. and **Akram, M.**, *Group decision making using circular intuitionistic fuzzy preference relations*, Expert Systems with Applications , **270**(2025), 126502. **IF=7.5**
17. Ullah, I., **Akram, M.**, Allahviranloo, T., *Multi-criteria decision making with Hamacher aggregation operators based on multi-polar fuzzy Z-numbers*, Information Sciences, **694**(2025), 121707. **IF=6.8**
18. Sultan, M., **Akram, M.** and Kahraman, C., *Humanitarian and e-commerce supply chain group decision-making using spherical fuzzy rough multi-attribute border approximation area comparison method*, Information Sciences, **718**(2025), 122398. **IF=6.8**
19. Sultan, M., **Akram, M.** and Kahraman, C., *Optimizing renewable transportation framework by an extended spherical fuzzy rough multi-criteria group decision making method*, Applied Soft Computing, **183**(2025), 113599, . **IF=6.6**
20. **Akram, M.**, Azam, S. and Kahraman, C., *Group decision making method for site selection of car sharing stations in Istanbul using spherical fuzzy rough numbers*, Applied Soft Computing, **169**(2025), 112607. **IF=6.6**
21. **Akram, M.**, Sultan, M. and Kahraman, C., *An extended outranking technique based on spherical fuzzy rough numbers for circular economy business models in small and medium-sized enterprises*, Applied Soft Computing, **169**(2025), 112496. **IF=6.6**
22. Khan, M. J., Alcantud, J. C. R., **Akram, M.** and Ding, W., *Separable N-soft sets: A tool for multinary descriptions with large-scale parameter sets*, Applied Intelligence, **55**(2025), 561. **IF=3.5**
23. Muhammad, G., **Akram, M.**, Alsulami, H. and Hussain, N., *Granular fuzzy fractional continuous-time linear systems: Roesser and Fornasini-Marchesini models*, Fractal and Fractional, **9**(2025), 398. **IF=3.3**
24. Javaid, I., Fatima, A. and **Akram, M.**, *Symmetry-based granulation in networks associated with commutative rings: application in social network dynamics*, Journal of Applied Mathematics and Computing, **71**(2025), 5205. **IF=2.7**

25. **Akram, M.** and Jamil, S., *Evaluation of renewable energy projects aligned with sustainability goals using a dual spherical fuzzy rough number cloud-based decision-making approach*, Journal of Applied Mathematics and Computing, **71**(2025), 8965. **IF=2.7**
26. **Akram, M.**, Fatima, U. and Alcantud, J. C. R., *Group decision-making method based on Pythagorean fuzzy rough numbers*, Journal of Applied Mathematics and Computing, **71**(2025), 2179. **IF=2.7**
27. Sultan, M. and **Akram, M.**, *An extended multi-criteria decision-making technique for hydrogen and fuel cell supplier selection by using spherical fuzzy rough numbers*, Journal of Applied Mathematics and Computing, **71**(2025), 1843. **IF=2.7**
28. **Akram, M.**, Nawaz, M. and Deveci, M., *Extended entropy method for risk inspection and effect analysis in optical cable industry*, International Journal of Machine Learning and Cybernetics, **16**(2025), 3149. **IF=2.7**
29. **Akram, M.**, Jamil, S. and Kahraman, C., *Sustainable and resilient circular supply chain design in food industry by a multi-stage Fermatean fuzzy rough group decision-making approach*, International Journal of Information Technology and Decision Making, <https://doi.org/10.1142/S0219622026500161>. **IF=1.8**
30. Ilyas, F. and **Akram, M.**, *An enhanced interval rough numbers-based outranking technique for evaluation of technology for sustainable mining*, Iranian Journal of Fuzzy Systems, **22**(2025), 111. **IF=1.2**
31. **Akram, M.** and Jamil, S., *Evaluation of sustainable third-party reverse logistics providers using a Fermatean fuzzy rough number-based decision-making framework*, Iranian Journal of Fuzzy Systems, **22**(2025), 103. **IF=1.2**
32. Fatima, A., Javaid, I. and **Akram, M.**, *Rough set theory applied to group of symmetries for pattern recognition*, New Mathematics and Natural Computation, <https://doi.org/10.1142/S1793005727500426>. **IF=1.1**
33. **Akram, M.**, Sultan, M. and Deveci, M., *An integrated multi-polar fuzzy N -soft preference ranking organization method for enrichment of evaluations of the digitization of global economy*, Artificial Intelligence Review, **57**(2024), 74. **IF=13.9**
34. **Akram, M.**, Zahid, K. and Kahraman, C., *A new ELECTRE-based decision-making framework with spherical fuzzy information for the implementation of autonomous vehicles project in Istanbul*, Knowledge-Based Systems, **283**(2024), 111207. **IF=7.6**
35. **Akram, M.**, Ilyas, F. and Deveci, M., *Interval rough integrated SWARA-ELECTRE model: An application to machine tool manufacturing*, Expert Systems with Applications, **238**(2024), 122067. **IF=7.5**
36. **Akram, M.**, Zahid, S. and Deveci, M., *Enhanced CRITIC-REGIME method for decision making based on Pythagorean fuzzy rough number*, Expert Systems with Applications, **238**(2024), 122014. **IF=7.5**

37. Muhammad, G. and **Akram, M.**, *Fuzzy fractional epidemiological model for middle east respiratory syndrome coronavirus on complex heterogenous network using Caputo derivative*, Expert Systems with Applications, **238**(2024), 122014. **IF=7.5**
38. Muhammad, G., **Akram, M.**, Hussain, N. and Allahviranloo, T., *Fuzzy Langevin fractional delay differential equations under granular derivative*, Information Sciences, **681**(2024), 121250. **IF=6.8**
39. **Akram, M.** and Ullah, I., *Solution of Z-number based multi-objective linear programming models with different membership functions*, Information Sciences, **659**(2024), 120100. **IF=6.8**
40. Muhammad, G. and **Akram, M.**, *Fuzzy fractional epidemiological model for Middle East respiratory syndrome coronavirus on complex heterogeneous network using Caputo derivative*, Information Sciences, **659**(2024), 120046. **IF=6.8**
41. **Akram, M.**, Azam, S., Al-Shamiri, M. M. A. and Pamucar, D., *An outranking method for selecting the best gate security system using spherical fuzzy rough numbers*, Engineering Applications of Artificial Intelligence, **138**(2024), 109411. **IF=8.0**
42. Muhammad, G. and **Akram, M.**, *Fuzzy fractional generalized Bagley-Torvik equation with fuzzy Caputo gH -differentiability*, Engineering Applications of Artificial Intelligence, **133**(2024), 108265. **IF=8.0**
43. **Akram, M.**, Noreen, U. and Deveci, M., *An outranking meyhof for optimizing anti-aircraft missile system with 2-tuple linguistic m -polar fuzzy data*, Engineering Applications of Artificial Intelligence, **132**(2024), 107923. **IF=8.0**
44. Habib, A. and **Akram, M.**, *Optimizing traveling salesman problem using tabu search metaheuristic algorithm with Pythagorean fuzzy uncertainty*, Granular Computing, **9**(2024), 16.
45. **Akram, M.**, Yousuf, M. and Allahviranloo, T., *An analytical study of Pythagorean fuzzy fractional wave equation using multivariate Pythagorean fuzzy fourier transform under generalized Hukuhara Caputo differentiability*, Granular Computing, **9**(2024), 15.
46. **Akram, M.**, Zahid, S. and Al-Kenani, A. N., *Multi-criteria group decision-making for evaluating efficient and smart mobility sharing systems using Pythagorean fuzzy rough numbers*, Granular Computing, **9**(2024), 50.
47. Luqman, A., Siddique, S., Shahzadi, G. and **Akram, M.**, *Multi-criteria group decision making through full multiplicative form under hesitant Fermatean fuzzy Environment*, Granular Computing, **9**(2024), 51.
48. **Akram, M.**, Shareef, A. and Al-Kenani, A. N., *Pythagorean fuzzy incidence graphs with application in one-way toll road network*, Granular Computing, **9**(2024), 39.

49. **Akram, M.** and Habib, A., *A novel Pythagorean fuzzy PRET approach to measure criticality with multi-criteria in project management problems*, Granular Computing, **9**(2024), 36.
50. Saha, A., Senapati, T., **Akram, M.**, Kahraman, C., Mesiar, R. and Arya, L., *Dual probabilistic linguistic consensus reaching method for group decision-making*, Granular Computing, **9**(2024), 35.
51. Nawaz, M., Adeel, A. and **Akram, M.**, *Risk evaluation in failure mode and effect analysis: AHP-VIKOR method with picture fuzzy rough number*, Granular Computing, **9**(2024), 69.
52. Alcantud, J. C. R., Khameneh, A. Z., Santos-Garcia, G. and **Akram, M.**, *A systematic literature review of soft set theory*, Neural Computing and Applications, **36**(2024), 8951.
53. Naz, S., **Akram, M.**, Shafiq, A. and Akhtar, K., *Optimal airport selection utilizing power Muirhead mean based group decision model with 2-tuple linguistic q -rung orthopair fuzzy information*, International Journal of Machine Learning and Cybernetics, **15**(2024), 303. **IF=2.7**
54. Fatima, S., **Akram, M.** and Zafar, F., *A hybrid decision-making technique based on extended entropy and trapezoidal fuzzy rough numbers*, Journal of Applied Mathematics and Computing, **70**(2024), 4755. **IF=2.7**
55. Al-Shamiri, M. M. A., Ahmad, U., Maryam, A. and **Akram, M.**, *Cubic directed graphs with Application*, Journal of Applied Mathematics and Computing, **70**(2024), 2169. **IF=2.7**
56. **Akram, M.**, Ahmad, U., Al-Shamiri, M. M. A. and Shareef, A., *Algorithms for computing Pythagorean fuzzy average edge connectivity of Pythagorean fuzzy graphs*, Journal of Applied Mathematics and Computing, **70**(2024), 375. **IF=2.7**
57. Naz, S., **Akram, M.**, ul Hassan, M. M. and Fatima, A., *A hybrid DEMATEL-TOPSIS approach using 2-tuple linguistic q -rung orthopair fuzzy information and its application in renewable energy source selection*, International Journal of Information Technology and Decision Making, **23**(2024), 1099. **IF=1.8**
58. **Akram, M.**, Bilal, M., Shahriari, M. and Allahviranloo, T., *Bipolar fuzzy transform for bipolar fuzzy solution of the bipolar fuzzy heat equation*, Iranian Journal of Fuzzy Systems, **21**(2024), 19. **IF=1.2**
59. Sarwar, M., **Akram, M.**, and Deveci, M., *Novel decision making approach for sustainable renewable energy resources with cloud fuzzy numbers*, Journal of Industrial Information Integration, **42**(2024), 100700. **IF=11.6**
60. Sarwar, M., **Akram, M.**, Gulzar, W. and Deveci, M., *Group decision making method for third-party logistics management: An interval rough cloud optimization model*, Journal of Industrial Information Integration, **41**(2024), 100658. **IF=11.6**

61. Muhiuddin, G., Hashmi, A. and **Akram, M.**, *Decision making analysis for cryptocurrency assessment based on picture fuzzy rough numbers*, Journal of Intelligent and Fuzzy Systems, <https://doi.org/10.1177/18758967251357165>. **IF=1.0**
62. **Akram, M.** and Niaz, Z., *2-tuple linguistic Fermatean fuzzy decision-making method based on COCOSO with CRITIC for drip irrigation system analysis*, Journal of Computational and Cognitive Engineering, **3**(2024), 186.
63. **Akram, M.**, Siddique, S. and Alcantud, J. C. R., *Connectivity indices of m-polar fuzzy network model, with an application to a product manufacturing problem*, Artificial Intelligence Review, **56** (8)(2023), 7795-7838. **IF=12**
64. **Akram, M.**, Naz, S. and Abbas, T., *Complex q-rung orthopair fuzzy 2-tuple linguistic group decision-making framework with Muirhead mean operators*, Artificial Intelligence Review, **56**(2023), 10227-10274. **IF=12**
65. **Akram, M.**, Habib, A. and Deveci, M., *Application of critical path method in ePropertWatch Plan using Gaussian Pythagorean fuzzy numbers*, IEEE Transactions on Fuzzy systems, (2023), <https://doi.org/10.1009/TFUZZ.2023.3321720>. **IF=11.9**
66. **Akram, M.**, Zahid, K. and Deveci, M., *Multi-criteria group decision-making for optimal management of water supply with fuzzy ELECTRE-based outranking method*, Applied Soft Computing, **143**(2023), 110403. **IF=8.7**
67. **Akram, M.**, Zahid, K. and Kahraman, C., *Integrated outranking techniques based on spherical fuzzy information for the digitalization of transportation system*, Applied Soft Computing, **134**(2023), 109992. **IF=8.7**
68. **Akram, M.**, Nawaz, H. S. and Kahraman, C., *Rough pythagorean fuzzy approximations with neighborhood systems and information granulation*, Expert Systems with Applications, **218**(2023), 119603. **IF=8.5**
69. **Akram, M.**, Nawaz, H. S. and Deveci, M., *Attribute reduction and information granulation in Pythagorean fuzzy formal contexts*, Expert Systems with Applications, **222**(2023), 119794. **IF=8.5**
70. **Akram, M.**, Noreen, U. and Deveci, M., *Enhanced ELECTRE II method with 2-tuple linguistic m-polar fuzzy sets for multi-criteria group decision making*, Expert Systems with Applications, **213**(2023), 119237. **IF=8.5**
71. **Akram, M.**, Muhammad, G. and Allahviranloo, T., *Explicit analytical solutions of an incommensurate system of fractional differential equations in a fuzzy environment*, Information Sciences, **645**(2023), 119372. **IF=8.1**
72. **Akram, M.**, Ramzan, N. and Deveci, M., *Linguistic Pythagorean fuzzy CRITIC-EDAS method for multiple-attribute group decision analysis*, Engineering Applications of Artificial Intelligence, **119**(2023), 105777. **IF=8**

73. **Akram, M.**, Bibi, R. and Deveci, M., *An outranking approach with 2-tuple linguistic Fermatean fuzzy sets for multi-attribute group decision-making*, Engineering Applications of Artificial Intelligence, **121**(2023), 105992. **IF=8**
74. **Akram, M.**, Khan, A., Luqman, A., Senapati, T. and Pamucar, D., *An extended MARCOS method for MCGDM under 2-tuple linguistic q -rung picture fuzzy environment*, Engineering Applications of Artificial Intelligence, **120**(2023), 105892. **IF=8**
75. **Akram, M.**, Ali, G. and Alcantud, J. C. R., *A novel group decision-making framework under Pythagorean fuzzy N -soft expert knowledge*, Engineering Applications of Artificial Intelligence, **120**(2023), 105879. **IF=8**
76. **Akram, M.**, Ramzan, N. and Deveci, M., *Linguistic Pythagorean fuzzy CRITIC-EDAS method for multiple-attribute group decision analysis*, Engineering Applications of Artificial Intelligence, **119**(2023), 105777. **IF=8**
77. Sarkar, A., Moslem, S., Esztergar-Kiss, D., **Akram, M.** and Senapati, T., *A hybrid approach based on dual hesitant q -rung orthopair fuzzy frank power partitioned heronian mean aggregation operators for estimating sustainable urban transport solutions*, Engineering Applications of Artificial Intelligence, **124**(2023), 106505. **IF=8**
78. **Akram, M.**, Zahid, K. and Kahraman, C., *A PROMETHEE based outranking approach for the construction of Fangcang shelter hospital using spherical fuzzy sets*, Artificial Intelligence in Medicine, **135**(2023), 102456. **IF=7.5**
79. **Akram, M.**, Sultan, M. and Alcantud, J. C. R., *An integrated ELECTRE method for selection of rehabilitation center with m -polar fuzzy N -soft information*, Artificial Intelligence in Medicine, **135**(2023), 102449. **IF=7.5**
80. Naz, S., **Akram, M.**, Shafiq, K. and Akhtar, K., *Optimal airport selection utilizing power Muirhead mean based group decision model with 2-tuple linguistic q -rung orthopair fuzzy information*, International Journal of Machine Learning and Cybernetics, (2023), <https://doi.org/10.1007/s13042-023-01911-9>. **IF=5.6**
81. Naz, S., **Akram, M.**, Hassan, M. M. U. and Fatima, A., *A hybrid DEMATEL-TOPSIS approach using 2-tuple linguistic q -rung orthopair fuzzy information and its application in renewable energy resource selection*, International Journal of Information Technology & Decision Making, (2023), <https://doi.org/10.1142/S0219622023500323>. **IF=4.9**
82. **Akram, M.** and Muhammad, G., *Analysis of incommensurate multi-order fuzzy fractional differential equations under strongly generalized fuzzy Caputo's differentiability*, Granular Computing, **8** (4)(2023), 809-825. **IF= 4.7**
83. **Akram, M.**, Ihsan, T. and Allahviranloo, T., *Solving Pythagorean fuzzy fractional differential equations using Laplace transform*, Granular Computing, **8** (3)(2023), 551-575. **IF= 4.7**

84. Sarwar, M., **Akram, M.** and Shahzadi, S., *Distance measures and δ -approximations with rough complex fuzzy models*, Granular Computing, **8** (2023), 893-916. **IF= 4.7**
85. Feng, F., Zhang, C., **Akram, M.** and Zhang, J., *Multiple attribute decision making based on probabilistic generalized orthopair fuzzy sets*, Granular Computing, **8** (4)(2023), 863-891. **IF= 4.7**
86. **Akram, M.**, and Zahid, S., *Group decision-making method with Pythagorean fuzzy rough number for the evaluation of best design concept*, Granular Computing, **8** (2023), 1121-1148. **IF= 4.7**
87. **Akram, M.**, and Bibi, R., *Multi-criteria group decision-making based on an integrated PROMETHEE approach with 2-tuple linguistic Fermatean fuzzy sets*, Granular Computing, **8** (2023), 917-941. **IF= 4.7**
88. **Akram, M.**, and Ihsan, T., *Solving Pythagorean fuzzy partial fractional diffusion model using the Laplace and Fourier transforms*, Granular Computing, **8** (4)(2023), 689-707. **IF= 4.7**.
89. **Akram, M.**, Yousuf, M. and Bilal, M., *Solution method for fifth order fuzzy initial value problem*, Granular Computing, **8** (2023), 1229-1252. **IF= 4.7**
90. **Akram, M.** and Bilal, M., *Analytical solution of bipolar fuzzy heat equation using homotopy perturbation method*, Granular Computing, **8** (2023), 1253-1266. **IF= 4.7**
91. **Akram, M.** and Ashraf, M., *Multi-criteria group decision-making based on spherical fuzzy rough numbers*, Granular Computing, **8** (2023), 1267-1298. **IF= 4.7**
92. **Akram, M.** and Zahid, K., *Mukti-criteria group decision-making for energy production from municipal solid waste in Iran based on spherical fuzzy sets*, Granular Computing, **8** (2023), 1299-1323. **IF= 4.7**
93. **Akram, M.**, Yousuf, M. and Allahviranloo, T., *Solution of the Pythagorean fuzzy wave equation with Pythagorean fuzzy Fourier sine transform*, Granular Computing, **8** (2023), 1149-1171. **IF= 4.7**
94. **Akram, M.**, Ullah, I. and Allahviranloo, T., *An interactive method for the solution of fully Z-number linear programming models*, Granular Computing, **8** (2023), 1205-1227. **IF= 4.7**
95. **Akram, M.**, Shahzadi, S., Shah, S. M. U. and Allahviranloo, T., *A fully Fermatean fuzzy multi-objective transportation model using and extended DEA technique*, Granular Computing, **8** (2023), 1173-1204. **IF= 4.7**
96. **Akram, M.**, Niaz, Z. and Feng, F., *Extended CODAS method for multi-attribute group decision-making based on 2-tuple linguistic Fermatean fuzzy Hamacher aggregation operators*, Granular Computing, **8** (3)(2023), 441-466. **IF= 4.7**

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13/56

97. **Akram, M.** and Martino, A., *Multi-attribute group decision making based on T-spherical fuzzy soft rough average aggregation operators*, Granular Computing, (2022), **8** (1)(2023), 171-207. **IF=4.7**
98. **Akram, M.**, Khan, A. and Ahmad, U., *Extended MULTIMOORA method based on 2-tuple linguistic Pythagorean fuzzy sets for multi-attribute group decision-making*, Granular Computing, **8** (2)(2023), 311-332. **IF=4.7**
99. **Akram, M.**, Muhammad, G. and Ahmad, D., *Analytical solution of the Atangana-Baleanu-Caputo fractional differential equations using Pythagorean fuzzy sets*, Granular Computing, **8** (2023), 667-687. **IF=4.7**
100. Hassan, M. U., Al-Awady, A. A., Ali, A., Iqbal, M. M., **Akram, M.**, Khan, J. and AbuOdeh, A. A., *An efficient dynamic decision-based tssk optimization and scheduling approach for microservice-based cost management in mobile cloud computing applications*, Pervasive and Mobile Computing, **92** (2023), 101785. **IF=4.3**
101. Hassan, M. U., Alzayed, A., Al-Awady, A. A., Iqbal, N., **Akram, M.** and Ikram, A., *A novel RGB image obfuscation technique using dynamically generated all order-4 magic squares*, IEEE Access, **11** (2023), 46382-46398. **IF=3.9**
102. Alcantud, J. C. R., Santos-Garcia, G. and **Akram, M.**, *A novel methodology for multi-agent decision-making based on N-soft sets*, Soft Computing, (2023), <https://doi.org/10.1007/s00500-023-08522-0>. **IF=4.1**
103. **Akram, M.**, Shahzadi, G. and Davvaz, B., *Decision-making model for internet finance soft power and sportswear brands based on sine-trigonometric Fermatean fuzzy information*, Soft Computing, **27** (4)(2023), 1971-1983. **IF=4.1**
104. **Akram, M.**, Shahzadi, S., Shah, S. M. U. and Allahviranloo, T., *An extended multi-objective transportation model based on Fermatean fuzzy sets*, Soft Computing, (2023), <https://doi.org/10.1007/s00500-023-08117-9>. **IF=4.1**
105. **Akram, M.**, Shahzadi, S., Bibi, R. and Santos-Garcia, G., *An extended multi-objective transportation model based on Fermatean fuzzy sets*, Soft Computing, (2023), <https://doi.org/10.1007/s00500-023-08158-0>. **IF=4.1**
106. Adeel, A., **Akram, M.** and Cagman, N., *Decision-making analysis based on hesitant fuzzy N-Soft ELECTRE-I approach*, Soft Computing, **27**(2023), 1971-1983. **IF=4.1**
107. Naz, S., **Akram, M.** and Muzammal, M., *Group decision-making based on 2-tuple linguistic T-spherical fuzzy COPRAS method*, Soft Computing, **27**(2023), 2873-2902. **IF=4.1**
108. Naz, S., **Akram, M.**, Davvaz, B. and Saadat, A., *A new decision-making framework for selecting the river crossing project under dual hesitant q-rung orthopair fuzzy 2-tuple linguistic environment*, Soft Computing, **27** (17)(2023), 12021-12047. **IF=4.1**

109. **Akram, M.**, Amjad, U., Alcantud, J. C. R. and Santos-Garcia, G., *Complex Fermatean fuzzy N -soft sets: A new hybrid model with applications*, Journal of Ambient Intelligence and Humanized Computing, **14** (7)(2023), 8765-8798. **IF=3.662**
110. Naz, S., **Akram, M.**, Hassan, M. M. U. and Fatima, A., *A hybrid DEMATEL-TOPSIS approach using 2-tuple linguistic q -rung orthopair fuzzy information and its application in renewable energy resource selection*, International Journal of Information Technology & Decision Making, (2023), <https://doi.org/10.1142/S0219622023500323>. **IF=3.508**
111. Ikram, A., Jalil, M. A., Ngah, A. B., Sulaiman, A., **Akram, M.** and Khan, A. S., *Offshore software maintenance outsourcing process model validation: A case study approach*, Computers, Materials & Continua, **74** (3)(2023) 5035-5048. **IF=3.1**
112. **Akram, M.**, Ali, G. A., Sulaiman, A. and Hassan, M. U., *Accessibility evaluation of Arabic University websites for compliance with success criteria of WCAG 1.0 and WCAG 2.0*, Universal Access in the Information Society, **22** (2023), 1199-1214. **IF=2.9**
113. Sulaiman, A., Rahman, H., Ali, N., Shaikh, A., **Akram, M.** and Lim, W. H., *An augmented reality PQRST based method to improve self learning skills for preschool autistic children*, Evolving Systems, **14** (2023), 859-872. **IF=2.9**
114. **Akram, M.**, Ali, G. and Alcantud, J. C. R., *A new method of multi-attribute group decision making based on hesitant fuzzy soft expert information*, Expert Systems, (2023), e13357. **IF=2.812**
115. **Akram, M.**, Naz, S., Feng, F. and Shafiq, A., *Assessment of hydropower plants in Pakistan: Muirhead mean-based 2-tuple linguistic T -spherical fuzzy model combining SWARA with COPRAS*, Arabian Journal for Science and Engineering, **48** (5)(2023), 5859-5888. **IF=2.807**
116. **Akram, M.**, Naz, S., Feng, F., Ali, G. and Shafiq, A., *Extended MABAC method based on 2-tuple linguistic T -spherical fuzzy sets and Heronian mean operators: An application to alternative fuel selection*, AIMS Mathematics, **8** (5)(2023), 10619-10653. **IF=2.739**
117. **Akram, M.**, Sultan, M., Adeel, A. and Al-Shamiri, M. M. A., *Pythagorean fuzzy N -soft PROMETHEE approach: A new framework for group decision making*, AIMS Mathematics, **8** (8)(2023), 17354-17380. **IF=2.739**
118. **Akram, M.**, Ramzan, N., Luqman, A. and Santos-Garcia, G., *An integrated MULTIMOORA method with 2-tuple linguistic Fermatean fuzzy sets: Urban quality of life selection problem*, AIMS Mathematics, **8** (2)(2023), 2798-2828. **IF=2.739**
119. **Akram, M.**, Shah, S. M. U., Al-Shamiri, M. M. A. and Edalatpanah, S. A., *Extended DEA method for solving multi-objective transportation problem with Fermatean fuzzy sets*, AIMS Mathematics, **8** (2023), 924-961. **IF=2.739**

120. **Akram, M.**, Muhammad, G., Allahviranloo, T. and Ali, G., *A solving method for two-dimensional homogeneous system of fuzzy fractional differential equations*, AIMS Mathematics, **8** (1)(2023), 228-263. **IF=2.739**
121. Ali, G. A., Sariera, T. M. A. A., **Akram, M.**, Sulaiman, A. and Olayah, F., *Detection and classification of hemorrhages in retinal images*, Computer Systems Science and Engineering, **44** (2)(2023), 1601-1616. **IF=2.7**
122. **Akram, M.**, Naz, S., Edalatpanah, S. A. and Samreen, S., *A hybrid decision-making framework under 2-tuple linguistic complex q -rung orthopair fuzzy Hamy mean aggregation operators*, Computational and Applied Mathematics, **42** (3)(2023), 118. **IF=2.6**
123. **Akram, M.**, Naz, S., Santos-Garcia, G. and Saeed, M. Z., *Extended CODAS method for MAGDM with 2-tuple linguistic T -spherical fuzzy sets*, AIMS Mathematics, **8** (2)(2023), 3428-3468. **IF=2.592**
124. Sarwar, M., Zafar, F. and **Akram, M.**, *Novel group decision making approach based on the rough soft approximations of graphs and hypergraphs*, Journal of Applied Mathematics and Computing, **69** (2023), 2795-2830. **IF=2.196**
125. Nawaz, H. S. and **Akram, M.**, *Granulation of protein-protein interaction networks in Pythagorean fuzzy soft environment*, Journal of Applied Mathematics and Computing, **69** (1)(2023), 293-320. **IF=2.196**
126. **Akram, M.**, Ali, U., Santos-Garcia, G. and Niaz, Z., *2-tuple linguistic Fermatean fuzzy MAGDM based on the WASPAS method for selection of solid waste disposal location*, Mathematical Biosciences and Engineering, **20** (2)(2023), 3811-3837. **IF=2.194**
127. **Akram, M.**, Sultan, M., Alcantud, J. C. R. and Al-Shamiri, M. M. A., *Extended fuzzy N -Soft PROMETHEE method and its application in robotbutler selection*, Mathematical Biosciences and Engineering, **20** (2)(2023), 1774-1800. **IF=2.194**
128. **Akram, M.**, Shah, S. M. U., Al-Shamiri, M. M. A. and Edalatpanah S. A., *Extended DEA method for solving multi-objective transportation problem with Fermatean fuzzy sets*, Mathematical Biosciences and Engineering, **8** (1)(2023), 924-961. **IF=2.194**
129. Khan, A., **Akram, M.**, Ahmad U. and Al-Shamiri, M. M. A., *A new multi-objective optimization ratio analysis plus full multiplication form method for the selection of an appropriate mining method based on 2-tuple spherical fuzzy linguistic sets*, Mathematical Biosciences and Engineering, **20** (1)(2023), 456-488. **IF=2.194**
130. Habib, S., Majeed, A., **Akram, M.** and Al-Shamiri, M. M. A., *Floyd-Warshall algorithm based on picture fuzzy information*, Computer Modeling in Engineering & Sciences, **136** (3)(2023), 2873-2894.. **IF=2.027**
131. Abbasi, F., Allahviranloo, T. and **Akram, M.**, *A new framework for numerical techniques for fuzzy nonlinear equations*, Axioms, **12** (2)(2023), 222. **IF= 1.824**

132. **Akram, M.**, Shah, S. M. U. and Allahviranloo, T., *A new method to determine the Fermatean fuzzy optimal solution of transportation problems*, Journal of Intelligent & Fuzzy Systems, **44** (1)(2023), 309-328. **IF= 1.737**
133. **Akram, M.**, Zahid, K. and Kahraman, C., *New optimization technique for group decision analysis with complex Pythagorean fuzzy sets*, Journal of Intelligent and Fuzzy Systems, **44** (3)(2023), 3621-3645. **IF= 1.737**
134. **Akram, M.**, Muhammad, G., Allahviranloo, T. and Pedrycz, W., *Incommensurate non-homogeneous system of fuzzy linear fractional differential equations using the fuzzy bunch of real functions*, Journal of Intelligent and Fuzzy Systems, **473**(2023), 108725. **IF=1.737**
135. Naz, S., **Akram, M.**, Naseer, I., Saeid, A. B. and Fatima, A., *2-tuple linguistic q-rung orthopair fuzzy power MSM approach for choosing sustainable waste disposal technology*, Scientia Iranica, (2023), <https://doi.org/10.24200/sci.2023.60804.7006>. **IF=1.416**
136. **Akram, M.**, Naz, S. and Ziaa, F., *Novel decision making framework based on complex q-rung orthopair fuzzy information*, Scientia Iranica, **30** (4)(2023), 1450-1479. **IF=1.416**
137. Sarwar, M. and **Akram, M.**, *Certain hybrid rough models with type-2 soft information*, Journal of Multiple-Valued Logic & Soft Computing, **40**(5-6)(2023), 433-467. **IF=0.779**
138. Saqib, M., **Akram, M.**, Bashir, S. and Allahviranloo, T., *Numerical methods for m-polar fuzzy initial value problems*, Computational Methods for Differential Equations, **11** (3)(2023), 412-439.
139. **Akram, M.** and Nawaz, H. S., *Implementation of single-valued neutrosophic soft hypergraphs on human nervous system*, Artificial Intelligence Review, **56**(2022), 1387-1425. **IF=9.588**
140. **Akram, M.**, Ali, G., Peng, X. and Ul Abidin, M. Z., *Hybrid group decision-making technique under spherical fuzzy N-soft expert sets*, Artificial Intelligence Review, **55**(2022), 4117-4163. **IF=9.588**
141. **Akram, M.**, Ali, G., Alcantud, J. C. R. and Riaz, A., *Group decision-making with Fermatean fuzzy soft expert knowledge*, Artificial Intelligence Review, **55**(2022), 5349-5389. **IF=9.588**
142. **Akram, M.**, Luqman, A. and Alcantud, J. C. R., *An integrated ELECTRE-I approach for risk evaluation with hesitant Pythagorean fuzzy information*, Expert Systems with Applications, **200**(2022), 116945. **IF=8.665**
143. Habib, A., **Akram, M.** and Kahraman, C., *Minimum spanning tree hierarchical clustering algorithm: A new Pythagorean fuzzy similarity measure for the analysis of functional brain networks*, Expert Systems with Applications, **201**(2022), 117016. **IF=8.665**

144. Alcantud, J. C. R., Santos-Garcia, G. and **Akram, M.**, *OWA aggregation operators and multi-agent decisions with N -soft sets*, Expert Systems with Applications, **203**(2022), 117430. **IF=8.665**
145. **Akram, M.**, Habib, A. and Allahviranloo, T., *A new maximal flow algorithm for solving optimization problems with linguistic capacities and flows*, Information Sciences, **612**(2022), 201-230. **IF=8.233**
146. Zahid, K., **Akram, M.** and Kahraman, C., *A new ELECTRE-based method for group decision-making with complex spherical fuzzy information*, Knowledge-Based Systems, **243**(2022), 108525. **IF=8.139**
147. **Akram, M.**, Shahzadi, S., Rasool, A. and Sarwar, M., *Decision-making methods based on fuzzy soft competition hypergraphs*, Complex & Intelligent Systems, **8** (3)(2022), 2325-2348. **IF=6.700**
148. **Akram, M.** and Nawaz, H. S., *Inter-specific competition among trees in Pythagorean fuzzy soft environment*, Complex & Intelligent Systems, **8** (2)(2022), 863-884. **IF=6.700**
149. **Akram, M.**, Zahid, K. and Alcantud, J. C. R., *A new outranking method for multicriteria decision making with complex Pythagorean fuzzy information*, Neural Computing and Applications, **34** (10)(2022), 8069-8102. **IF=5.102**
150. Nawaz, H. S., **Akram, M.** and Alcantud, J. C. R., *An algorithm to compute the strength of competing interactions in the Bering Sea based on Pythagorean fuzzy hypergraphs*, Neural Computing and Applications, **34** (2)(2022), 1099-1121. **IF=5.102**
151. **Akram, M.**, Ali, G. and Alcantud, J. C. R., *Attributes reduction algorithms for m -polar fuzzy relation decision systems*, International Journal of Approximate Reasoning, **140**(2022), 232-254. **IF=4.452**
152. Liu, P., Naz, S., **Akram, M.** and Muzammal, M., *Group decision-making analysis based on linguistic q -rung orthopair fuzzy generalized point weighted aggregation operators*, International Journal of Machine Learning and Cybernetics, **13** (4)(2022), 883-906. **IF=4.377**
153. **Akram, M.**, Ali, M. and Allahviranloo, T., *A method for solving bipolar fuzzy complex linear systems with real and complex coefficients*, Soft Computing, **26** (5)(2022), 2157-2178. **IF=3.732**
154. Adeel, A., **Akram, M.** and Cagman, N., *Decision-making analysis based on hesitant fuzzy N -soft ELECTRE-I approach*, Soft Computing, **26** (2022), 118849-11863. **IF=3.732**
155. Saleem, H., Riaz, F., Shaikh, A., Rajab, K., Rajab, A., **Akram, M.** and Al-Reshan, M. S., *Optimizing steering angle predictive convolutional neural network for autonomous car*, Computers, Materials & Continua, **71** (2)(2022) 2285-2302. **IF=3.1**

156. **Akram, M.**, Muhammad, G., Allahviranloo, T. and Pedrycz, W., *Solution of initial-value problem for linear third-order fuzzy differential equations*, Computational and Applied Mathematics, **41**(2022), 398. **IF=2.998**
157. **Akram, M.**, Ullah, I. and Allahviranloo, T., *A new method for the solution of fully fuzzy linear programming models*, Computational and Applied Mathematics, **41** (1)(2022), 1-25. **IF=2.998**
158. **Akram, M.**, Saqib, M., Bashir, S. and Allahviranloo, T., *An efficient numerical method for solving m -polar fuzzy initial value problems*, Computational and Applied Mathematics, **41** (4)(2022), 157. **IF=2.998**
159. Asad, M. M., Naz, A., Shaikh, A., Alrizq, M., **Akram, M.** and Alghamdi, A., *Investigating the impact of IoT-based smart laboratories on students' academic performance in higher education*, Universal Access in the Information Society, (2022), <https://doi.org/10.1007/s10209-022-00944-1>. **IF=2.9**
160. **Akram, M.**, Noreen, U. and Pamucar, D., *Extended PROMETHEE approach with 2-tuple linguistic m -polar fuzzy sets for selection of elliptical cardio machine*, Expert Systems, **40** (3)(2022), e13178. **IF=2.812**
161. Naz, S., **Akram, M.**, Saeid, A. B. and Saadat, A., *Models for MAGDM with dual hesitant q -rung orthopair fuzzy 2-tuple linguistic MSM operators and their application to COVID-19 pandemic*, Expert Systems, (2022), e13005. **IF=2.812**
162. **Akram, M.**, Noreen, U., Al-Shamiri, M. M. A. and Pamucar, D., *Integrated decision-making methods based on 2-tuple linguistic m -polar fuzzy information*, AIMS Mathematics, **7** (8)(2022), 14557-14594. **IF=2.739**
163. **Akram, M.**, Shah, S. M. U., Al-Shamiri, M. M. A. and Edalatpanah, S. A., *Fractional transportation problem under interval-valued Fermatean fuzzy sets*, AIMS Mathematics, **7** (9)(2022), 17327-17348. **IF=2.739**
164. Naz, S., **Akram, M.**, Sattar A. and Al-Shamiri, M. M. A., *2-tuple linguistic q -rung orthopair fuzzy CODAS approach and its application in are welding robot selection*, AIMS Mathematics, **7** (9)(2022), 17529-17569. **IF=2.739**
165. **Akram, M.**, Muhammad, G., Allahviranloo, T. and Ali, G., *New analysis of fuzzy fractional Langevin differential equations in Caputo's derivative sense*, AIMS Mathematics, **7** (10)(2022), 18467-18496. **IF=2.739**
166. Sulaiman, A., Sadiq, M., Mehmood, Y., **Akram, M.** and Ali, G. A., *Fitness-based acceleration coefficients binary particle swarm optimization (FACBPSO) to solve the discounted knapsack problem*, Symmetry, **14** (6)(2022), 1208. **IF=2.7**
167. Naz, S., **Akram, M.**, Al-Shamiri, M. M. A. and Saeed, M. R., *Evaluation of network security service provider using 2-tuple linguistic complex q -rung orthopair fuzzy COPRAS method*, Complexity, (2022), Article ID 4523287. **IF=2.3**

168. Hassan, M., Ali, S., Mahmood, K., Dhahbi, S., **Akram, M.**, Zaman, S., Saeed, M. K. and Maray, M., *Connectivity restoration by clustering for mobile sensor networks*, *Wireless Personal Communications*, **124** (4)(2022), 3445-3459. **IF=2.2**
169. **Akram, M.**, Ahmad, U., Rukhsar and Karaaslan, F., *Complex Pythagorean fuzzy threshold graphs with application in petroleum replenishment*, *Journal of Applied Mathematics and Computing*, **68** (3)(2022), 2125-2150. **IF=2.196**
170. **Akram, M** and Nawaz, H. S., *Algorithms for the computation of regular single-valued neutrosophic soft hypergraphs applied to supranational asian bodies*, *Journal of Applied Mathematics and Computing*, **68**(2022), 4479-4506. **IF=2.196**
171. **Akram, M.**, Siddique, S. and Alharbi, M. G., *Clustering algorithm with strength of connectedness for m -polar fuzzy network models*, *Mathematical Biosciences and Engineering*, **19** (1)(2022), 420-455. **IF=2.194**
172. **Akram, M.**, Farooq, A., Shabir, M., Al-Shamiri, M. M. A. and Khalaf, M. M., *Group decision-making analysis with complex spherical fuzzy N -soft sets*, *Mathematical Biosciences and Engineering*, **19** (5)(2022), 4991-5030. **IF=2.194**
173. **Akram, M.**, Khan, A., Ahmad, U., Alcantud, J. C. R. and Al-Shamiri, M. M. A., *A new group decision-making framework based on 2-tuple linguistic complex q -rung picture fuzzy sets*, *Mathematical Biosciences and Engineering*, **19** (11)(2022), 11281-11323. **IF=2.194**
174. Naz, S., **Akram, M.**, Al-Shamiri, M. M. A., Khalaf, M. M. and Yousaf, G., *A new MAGDM method with 2-tuple linguistic bipolar fuzzy Heronian mean operators*, *Mathematical Biosciences and Engineering*, **19**(2022), 3843-3878. **IF=2.194**
175. **Akram, M.**, Muhiuddin, G. and Santos-Garcia, G., *An enhanced VIKOR method for multi-criteria group decision-making with complex Fermatean fuzzy sets*, *Mathematical Biosciences and Engineering*, **19** (7)(2022), 7201-7231. **IF=2.194**
176. **Akram, M.**, Ihsan, T., Allahviranloo, T. and Al-Shamiri, M. M. A., *Analysis on determining the solution of fourth-order fuzzy initial value problem with Laplace operator*, *Mathematical Biosciences and Engineering*, **19** (2022), 11868-11902. **IF=2.194**
177. **Akram, M.**, Ullah, I. and Allahviranloo, T., *A new method to solve linear programming problems in the environment of picture fuzzy sets*, *Iranian Journal of Fuzzy Systems*, **19** (6)(2022), 29-49. **IF=2.01**
178. **Akram, M**, Ramzan, N. and Feng, F., *Extending COPRAS method with linguistic Fermatean fuzzy sets and Hamy mean operators*, *Journal of Mathematics*, (2022), Article ID 8239263. **IF=1.555**
179. **Akram, M**, Noreen, U. and Al-Shamiri, M. M. A., *Decision analysis approach based on 2-tuple linguistic m -polar fuzzy Hamacher aggregation operators*, *Discrete Dynamics in Nature and Society*, (2022), Article ID 6269115. **IF=1.457**

180. **Akram, M.**, Bibi, R. and Al-Shamiri M. M. A., *A decision-making framework based on 2-tuple linguistic Fermatean fuzzy Hamy mean operators*, *Mathematical Problems in Engineering*, (2022), Article ID 1501880. **IF=1.430**
181. Naz, S., **Akram, M.**, Muhiuddin, G. and Shafiq, A., *Modified EDAS method for MAGDM based on MSM operators with 2-tuple linguistic T-Spherical fuzzy sets*, *Mathematical Problems in Engineering*, (2022), Article ID 5075998. **IF=1.430**
182. **Akram, M.**, Sultan, M. and Al-Kenani, A. N., *Group decision analysis based on complex m-polar fuzzy N-soft environment*, *Mathematical Problems in Engineering*, **2022**(2022), Article ID 4917408. **IF=1.430**
183. **Akram, M.** and Sultan, M., *Complex m-polar fuzzy N-soft model*, *Journal of Multiple-Valued Logic & Soft Computing*, **39**(2022), 251-276. **IF=0.779**
184. **Akram, M.**, Ahmad, U. and Samanta, S., *Threshold graphs under Pythagorean fuzzy information*, *Journal of Multiple-Valued Logic & Soft Computing*, **38**(5-6)(2022), 547-574. **IF=0.779**
185. **Akram, M.** and Niaz, Z., *2-tuple linguistic Fermatean fuzzy decision-making method based on COCOSO with CRITIC for drip irrigation system analysis*, *Journal of Computational and Cognitive Engineering*, (2022), <https://doi.org/10.47852/bonviewJCCE2202356>
186. Feng, F., Zheng, Y., Sun, B. and **Akram, M.**, *Novel score functions of generalized orthopair fuzzy membership grades with application to multiple attribute decision making*, *Granular Computing*, **7**(2022), 95-111.
187. **Akram, M.**, Shahzadi, G. and Alcantud, J. C. R., *Multi-attribute decision-making with q-rung picture fuzzy information*, *Granular Computing*, **7**(2022), 197-215.
188. **Akram, M.**, Sattar, A. and Saeid, A. B., *Competition graphs with complex intuitionistic fuzzy information*, *Granular Computing*, **7**(2022), 25-47.
189. **Akram, M.**, Ahmad, U. and Rukhsar, *Threshold graphs under picture Dombi fuzzy information*, *Granular Computing*, **7** (3)(2022), 691-707.
190. **Akram, M.** and Sitara, M., *Decision-making with q-rung orthopair fuzzy graph structures*, *Granular Computing*, **7** (7)(2022), 505-526.
191. **Akram, M.**, Ali, G. and Alcantud, J. C. R., *Parameter reduction analysis under interval-valued m-polar fuzzy soft information*, *Artificial Intelligence Review*, **54**(2021), 5541-5582. **IF=9.588**
192. Sarwar, M., **Akram, M.** and Liu, P., *An integrated rough ELECTRE II approach for risk evaluation and effects analysis in automatic manufacturing process*, *Artificial Intelligence Review*, **54**(2021), 4449-4481. **IF=9.588**

193. Luqman, A., **Akram, M.** and Alcantud J. C. R., *Digraph and matrix approach for risk evaluations under Pythagorean fuzzy information*, Expert Systems with Applications, **170**(2021), 114518. **IF=8.665**
194. **Akram, M.**, Luqman, A. and Kahraman, C., *Hesitant Pythagorean fuzzy ELECTRE-II method for multi-criteria decision-making problems*, Applied Soft Computing, **108**(2021), 107479. **IF=8.263**
195. **Akram, M.**, Kahraman, C. and Zahid, K., *Group decision-making based on complex spherical fuzzy VIKOR approach*, Knowledge-Based Systems, **216**(2021), 106793. **IF=8.139**
196. **Akram, M.**, Sattar, A., Karaaslan, F. and Samanta, S., *Extension of competition graphs under complex fuzzy environment*, Complex & Intelligent Systems, **7**(2021), 539-558. **IF=6.7**
197. **Akram, M.**, Habib, A. and Alcantud, J. C. R., *An optimization study based on Dijkstra algorithm for a network with trapezoidal picture fuzzy numbers*, Neural Computing & Applications, **33**(2021), 1329-1342. **IF=5.102**
198. **Akram, M.**, Adeel, A., Al-Kenani, A. N. and Alcantud, J. C. R., *Hesitant fuzzy N-soft ELECTRE-II model: A new framework for decision-making*, Neural Computing and Applications, **33** (13)(2021), 7505-7520. **IF=5.102**
199. Ma, X., **Akram, M.**, Zahid, K. and Alcantud, J. C. R., *Group decision-making framework using complex Pythagorean fuzzy information*, Neural Computing and Applications, **33** (6)(2021), 2085-2105. **IF=5.102**
200. **Akram, M.**, Ali, G., Butt, M. A. and Alcantud, J. C. R., *Novel MCGDM analysis under m-polar fuzzy soft expert sets*, Neural Computing and Applications, **33**(2021), 12051-12071. **IF=5.102**
201. **Akram, M.**, Luqman, A. and Alcantud, J. C. R., *Risk evaluation in failure modes and effects analysis: Hybrid TOPSIS and ELECTRE I solutions with Pythagorean fuzzy information*, Neural Computing and Applications, **33**(2021), 5675-5703. **IF=5.102**
202. **Akram, M.**, Ilyas, F. and Garg, H., *ELECTRE-II method for group decision-making in Pythagorean fuzzy environment*, Applied Intelligence, **51**(2021), 8701-8719. **IF=5.019**
203. **Akram, M.**, Kahraman, C. and Zahid, K., *Extension of TOPSIS model to the decision-making under complex spherical fuzzy information*, Soft Computing, **25**(2021), 10771-10795. **IF=3.732**
204. Sarwar, M., **Akram, M.**, Shahzadi, S., *Bipolar fuzzy soft information applied to hypergraphs*, Soft Computing, **25** (5)(2021), 3417-3439. **IF=3.732**
205. **Akram, M.**, Allahviranloo, T., Pedrycz, W. and Ali, M., *Methods for solving LR-bipolar fuzzy linear systems*, Soft Computing, **25** (1)(2021), 85-108. **IF=3.732**

206. **Akram, M.**, Peng, X. and Sattar, A., *A new decision-making model using complex intuitionistic fuzzy Hamacher aggregation operators*, *Soft Computing*, **25** (10)(2021), 7059-7086. **IF=3.732**
207. **Akram, M.**, Naz, S., Edalatpanah, S. A. and Mehreen, R., *Group decision-making framework under linguistic q -rung orthopair fuzzy Einstein models*, *Soft Computing*, **25**(2021), 10309-10334. **IF=3.732**
208. **Akram, M.**, Bashir, A. and Edalatpanah, S. A., *A hybrid decision-making analysis under complex q -rung picture fuzzy Einstein averaging operators*, *Computational and Applied Mathematics*, **40** (8)(2021), 1-35. **IF=2.998**
209. **Akram, M.**, Ullah, I., Allahviranloo, T. and Edalatpanah, S. A., *Fully Pythagorean fuzzy linear programming problems with equality constraints*, *Computational and Applied Mathematics*, **40** (4)(2021), 1-30. **IF=2.998**
210. **Akram, M.**, Bashir, S. and Allahviranloo, T., *A Runge-Kutta numerical method to approximate the solution of bipolar fuzzy initial value problems*, *Computational and Applied Mathematics*, **40** (4)(2021), 1-43. **IF=2.998**
211. **Akram, M.**, Amjad, U. and Davvaz, B., *Decision-making analysis based on bipolar fuzzy N -soft information*, *Computational and Applied Mathematics*, **40**(2021), 182. **IF=2.998**
212. **Akram, M.**, Wasim, F. and Karaaslan, F., *MCGDM with complex Pythagorean fuzzy-soft model*, *Expert Systems*, **38** (8)(2021), 12783. **IF=2.813**
213. **Akram, M.**, Khan, A., Alcantud, J. C. R. and Santos-Garcia, G., *A hybrid decision-making framework under complex spherical fuzzy prioritized weighted aggregation operators*, *Expert Systems*, **38** (6)(2021), 12712. **IF=2.813**
214. **Akram, M.**, Ali, G., Alcantud, J. C. R. and Fatimah, F., *Parameter reductions in N -soft sets and their applications in decision-making*, *Expert Systems*, **38** (1)(2021), 12601. **IF=2.813**
215. **Akram, M.**, Peng, X. and Sattar, A., *Multi-criteria decision-making model using complex Pythagorean fuzzy Yager aggregation operators*, *Arabian Journal for Science and Engineering*, **46** (2)(2021), 1691-1717. **IF=2.807**
216. **Akram, M.**, Ilyas, F. and Al-Kenani, A. N., *Two-phase group decision-aiding system using ELECTRE III method in Pythagorean fuzzy environment*, *Arabian Journal for Science and Engineering*, **46** (4)(2021), 3549-3566. **IF=2.807**
217. Al-Hawary, T. A., Al-Shalalkeh S. H. and **Akram, M.**, *Certain matrices and energies of fuzzy graphs*, *TWMS Journal of Applied and Engineering Mathematics*, **11** (3)(2021), 1-17. **IF=2.722**

218. **Akram, M.**, Al-Kenani, A. N. and Shabir, M., *Enhancing ELECTRE I Method with Complex Spherical Fuzzy Information*, International Journal of Computational Intelligence Systems, **14** (1)(2021), 1-31. **IF=2.259**
219. **Akram, M.**, Wasim, F. and Al-Kenani, A. N., *A hybrid decision-making approach under complex Pythagorean fuzzy N -soft sets*, International Journal of Computational Intelligence Systems, **14**(1)(2021), 1263-1291. **IF=2.259**
220. Nawaz, H. S. and **Akram, M.**, *Oligopolistic competition among the wireless internet service providers of Malaysia using fuzzy soft graphs*, Journal of Applied Mathematics and Computing, **67**(2021), 855-890. **IF=2.196**
221. Sitara, M., **Akram, M.** and Riaz, M., *Decision-making analysis based on q -rung picture fuzzy graph structures*, Journal of Applied Mathematics and Computing, **67**(2021), 541-577. **IF=2.196**
222. Siddique, S., Ahmad, U. and **Akram, M.**, *A study on generalized graphs representations of complex neutrosophic information*, Journal of Applied Mathematics and Computing, **65** (1)(2021), 481-514. **IF=2.196**
223. **Akram, M.**, Al-Kenani, A. N. and Luqman, A., *Degree based models of granular computing under fuzzy indiscernibility relations*, Mathematical Biosciences and Engineering, **18** (6)(2021), 8415-8443. **IF=2.194**
224. **Akram, M.**, Wasim, F. and Al-Kenani, A. N., *Complex q -rung orthopair fuzzy-soft sets: A new model with applications*, Complexity, **2021**(2021), Article ID 3690597. **IF=2.121**
225. **Akram, M.** and Shumaiza, *Multi-criteria decision making based on q -rung orthopair fuzzy PROMETHEE approach*, Iranian Journal of Fuzzy Systems, **18** (5)(2021), 107-127. **IF=2.006**
226. **Akram, M.**, Siddique, S. and Ahmad, U., *Menger's theorem for m -polar fuzzy graphs and application of m -polar fuzzy edges to road network*, Journal of Intelligent and Fuzzy Systems, **41** (1)(2021), 1553-1574. **IF=1.737**
227. **Akram, M.**, Ullah, I., Allahviranloo, T. and Edalatpanah, S. A., *LR-type fully Pythagorean fuzzy linear programming problems with equality constraints*, Journal of Intelligent and Fuzzy Systems, **41** (1)(2021), 1975-1992. **IF=1.737**
228. **Akram, M.**, Shahzadi, G., Butt, M. A. and Karaaslan, F., *A hybrid decision making method based on q -rung orthopair fuzzy soft information*, Journal of Intelligent and Fuzzy Systems, **40**(2021), 9815-9830. **IF=1.737**
229. **Akram, M.**, Alsulami, S., Karaaslan, F. and Khan, A., *q -Rung orthopair fuzzy graphs under Hamacher operators*, Journal of Intelligent and Fuzzy Systems, **40** (1)(2021), 1367-1390. **IF=1.737**

230. **Akram, M.**, Naz, S., Shahzadi, S. and Ziaa, F., *Geometric-arithmetic energy and atom bond connectivity energy of dual hesitant q -rung orthopair fuzzy graphs*, Journal of Intelligent and Fuzzy Systems, **40** (1)(2021), 1287-1307. **IF=1.737**
231. Shahzadi, G. and **Akram, M.**, *Group decision-making for the selection of an antivirus mask under Fermatean fuzzy soft information*, Journal of Intelligent and Fuzzy Systems, **40** (1)(2021), 1401-1416. **IF=1.737**
232. Liu, P., **Akram, M.** and Bashir, A., *Extensions of power aggregation operators for decision making based on complex picture fuzzy knowledge*, Journal of Intelligent and Fuzzy Systems, **40** (1)(2021), 1107-1128. **IF=1.737**
233. Saqib, M., **Akram, M.**, Shahida, B. and Allahviranloo, T., *Numerical solution of bipolar fuzzy initial value problem*, Journal of Intelligent and Fuzzy Systems, **40** (1)(2021), 1309-1341. **IF=1.737**
234. **Akram, M.** and Shumaiza, *Multi-criteria decision-making methods based on q -rung picture fuzzy information*, Journal of Intelligent and Fuzzy Systems, **40** (5)(2021), 10017-10042. **IF=1.737**
235. **Akram, M.**, Shabir, M., Al-Kenani, A. N. and Alcantud, J. C. R., *Hybrid decision-making frameworks under complex spherical fuzzy-soft sets*, Journal of Mathematics, **3**(2021), 1-46. **IF=1.555**
236. **Akram, M.**, Shabir, M., Adeel, A. and Al-Kenani, A. N., *A multiattribute decision-making framework: VIKOR method with complex spherical fuzzy-soft sets*, Mathematical Problems in Engineering, **2021**(2021). **IF=1.43**
237. **Akram, M.**, Ullah, I. and Alharbi, M. G., *Methods for solving-type Pythagorean fuzzy linear programming problems with mixed constraints*, Mathematical Problems in Engineering, **2021**(2021). **IF=1.43**
238. **Akram, M.**, Alsulami S. and Zahid, K., *A hybrid method for complex Pythagorean fuzzy decision making*, Mathematical Problems in Engineering, **2021**(2021), Article ID 9915432. **IF=1.43**
239. Mehmood, M. A., **Akram, M.**, Alharbi, M. G. and Bashir, S., *Solution of fully bipolar fuzzy linear programming models*, Mathematical Problems in Engineering, **2021**(2021), Article ID 9961891. **IF=1.43**
240. Mehmood, M. A., **Akram, M.**, Alharbi M. G. and Bashir, S., *Optimization of LR-type fully bipolar fuzzy linear programming problems*, Mathematical Problems in Engineering, **2021**(2021), Article ID 1199336. **IF=1.43**
241. Ali, G., **Akram, M.**, Shahzadi, S. and Ul Abidin, M. Z., *Group decision-making framework with bipolar soft expert sets*, Journal of Multiple-Valued Logic & Soft Computing, **37**(2021), 211-246. **IF=0.779**

242. **Akram, M.**, Khan, A. and Karaaslan, F., *Complex spherical Dombi fuzzy aggregation operators for decision-making*, Journal of Multiple-Valued Logic & Soft Computing, **37**(2021), 503-531. **IF=0.779**
243. Siddique, S., Ahmad, U. and **Akram, M.**, *A decision-making analysis with generalized m -polar fuzzy graphs*, Journal of Multiple-Valued Logic & Soft Computing, **37**(2021), 409-436. **IF=0.779**
244. Hameed, S., **Akram, M.**, Mustafa, N. and Karaaslan, F., *Extension of threshold graphs under complex intuitionistic fuzzy environment*, Journal of Multiple-Valued Logic & Soft Computing, **37**(2021), 295-315. **IF=0.779**
245. Hameed, S., **Akram, M.**, Mustafa, N. and Samanta, S., *Extension of threshold graphs under complex fuzzy environment*, International Journal of Applied and Computational Mathematics, **7** (5)(2021), 1-19.
246. **Akram, M.**, Shahzadi, G. and Peng, X., *Extension of Einstein geometric operators to multi-attribute decision making under q -rung orthopair fuzzy information*, Granular Computing, **6** (4)(2021), 779-795.
247. **Akram, M.** and Shahzadi, G., *A hybrid decision-making model under q -rung orthopair fuzzy Yager aggregation operators*, Granular Computing, **6** (4)(2021), 763-777.
248. **Akram, M.**, *Spherical fuzzy K -algebras*, Journal of Algebraic Hyperstructures and Logical Algebras, **2** (3)(2021), 85-98.
249. **Akram, M.**, Ali, G. and Shabir, M., *A hybrid decision-making framework using rough mF bipolar soft environment*, Granular Computing, **6** (3)(2021), 539-555.
250. **Akram, M.** and Bashir, A., *Complex fuzzy ordered weighted quadratic averaging operators*, Granular Computing, **6** (3)(2021), 523-538.
251. **Akram, M.**, Shabir, M. and Ashraf, A., *Complex neutrosophic N -soft sets: A new model with applications*, Neutrosophic Sets and Systems, **42**(2021), 278-301.
252. **Akram, M.** and Ali, G., *Group decision-making approach under multi (Q, N) -soft multi granulation rough model*, Granular Computing, **6** (2)(2021), 339-357.
253. **Akram, M.** and Shahzadi, G., *Decision-making approach based on Pythagorean Dombi fuzzy soft graphs*, Granular Computing, **6**(2021), 671-689.
254. **Akram, M.**, Shahzadi, G. and Peng, X., *Extension of Einstein geometric operators to multi-attribute decision-making under q -rung orthopair fuzzy information*, Granular Computing, **6**(2021), 779-795.
255. **Akram, M.** and Shahzadi, G., *A hybrid decision-making model under q -rung orthopair fuzzy Yager aggregation operators*, Granular Computing, **6**(2021), 763-777.

256. **Akram, M.** and Khan, A., *Complex Pythagorean Dombi fuzzy graphs for decision making*, Granular Computing, **6**(2021), 645-669.
257. Ali, G., **Akram, M.** and Alcantud, J. C. R., *Attributes reductions of bipolar fuzzy relation decision systems*, Neural Computing and Applications, **32**(2020), 10051-10071. **IF=5.606**
258. **Akram, M.**, Dar, J. M. and Naz, S., *Pythagorean Dombi fuzzy graphs*, Complex & Intelligent Systems, **6**(2020), 29-54. **IF=4.927**
259. **Akram, M.**, Ilyas, F. and Garg, H., *Multi-criteria group decision making based on ELECTRE I method in Pythagorean fuzzy information*, Soft Computing, **24** (5)(2020), 3425-3453. **IF=3.643**
260. **Akram, M.** and Luqman, A., *Granulation of ecological networks under fuzzy soft environment*, Soft Computing, **24**(2020), 11867-11892. **IF=3.643**
261. Asif, M., **Akram, M.** and Ali, G., *Pythagorean fuzzy matroids with application*, Symmetry, **12**(2020), 423. **IF=2.713**
262. **Akram, M.**, Shumaiza, and Al-Kenani, A. N., *Multi-criteria group decision-making for selection of green suppliers under bipolar fuzzy PROMETHEE process*, Symmetry, **12**(1)(2020), 77. **IF=2.713**
263. **Akram, M.**, Khan, A. and Saeid, A. B., *Complex Pythagorean Dombi fuzzy operators using aggregation operators and their decision-making*, Expert Systems, **38**(2020), e12626. **IF=2.587**
264. Ali, G. and **Akram, M.**, *Decision-making method based on fuzzy N -soft expert sets*, Arabian Journal for Science and Engineering, **45**(2020), 10381-10400. **IF=2.334**
265. Shahzadi, G., **Akram, M.** and Al-Kenani, A. N., *Decision making approach under Pythagorean fuzzy Yager weighted operators*, Mathematics, **8** (1)(2020), 70. **IF=2.258**
266. **Akram, M.**, Shumaiza and Arshad, M., *Bipolar fuzzy TOPSIS and bipolar fuzzy ELECTRE-I methods to diagnosis*, Computational and Applied Mathematics, **39**(2020), 1-21. **IF=2.239**
267. **Akram, M.**, Ali, M. and Allahviranloo, T., *Certain methods to solve bipolar fuzzy linear system of equations*, Computational and Applied Mathematics, **39**(2020), 213. **IF=2.239**
268. **Akram, M.**, Bashir, A. and Garg, H., *Decision-making model under complex picture fuzzy Hamacher aggregation operators*, Computational and Applied Mathematics, **39** (3)(2020), 1-38. **IF=2.239**
269. **Akram, M.**, Garg, H. and Zahid, K., *Extensions of ELECTRE-I and TOPSIS methods for group decision-making under complex Pythagorean fuzzy environment*, Iranian Journal of Fuzzy Systems, **17** (5)(2020), 147-164. **IF=2.100**

270. Liu, P., Shahzadi, G. and **Akram, M.**, *Specific types of q -rung picture fuzzy Yager aggregation operators for decision-making*, International Journal of Computational Intelligence Systems, **13** (1)(2020), 1072-1091. **IF=1.736**
271. Koam, A. N. A., **Akram, M.**, Muhammad, G. and Hussain, N., *LU decomposition scheme for solving m -polar fuzzy system of linear equations*, Mathematical Problems in Engineering, **2020** (2020), Article ID 8384593. **IF=1.305**
272. Garg, H., Shahzadi, G. and **Akram, M.**, *Decision-making analysis based on Fermatean fuzzy Yager aggregation operators with application in COVID-19 testing facility*, Mathematical Problems in Engineering, **2020**(2020), Article ID 7279027. **IF=1.305**
273. Koam, A. N. A., **Akram, M.** and Liu, P., *Decision-making analysis based on fuzzy graph structures*, Mathematical Problems in Engineering, **2020**(2020), Article ID 6846257. **IF=1.305**
274. **Akram, M.**, Shahzadi, G. and Ahmadini, A. A. H., *Decision-making framework for an effective sanitizer to reduce COVID-19 under Fermatean fuzzy environment*, Journal of Mathematics, **2020**(2020), Article ID 3263407. **IF=0.971**
275. Shahzadi, S., Sawrar, M. and **Akram, M.**, *Decision-making approach with fuzzy type-2 soft graphs*, Journal of Mathematics, **2020**(2020), Article ID 8872446. **IF=0.971**
276. **Akram, M.**, Yaqoob, N., Ali, G. and Chammam, W., *Extensions of Dombi aggregation operators for decision-making under m -polar fuzzy information*, Journal of Mathematics, **2020**(2020), Article No. 4739567. **IF=0.971**
277. **Akram, M.**, Sitara, M. and Saeid, A. B., *Residue product of fuzzy graph structures*, Journal of Multiple-Valued Logic and Soft Computing, **34** (3-4)(2020), 365-399. **IF=0.861**
278. **Akram, M.**, Alsulami S., Khan A. and Karaaslan F., *Multi-criteria group decision-making using spherical fuzzy prioritized weighted aggregation operators*, International Journal of Computational Intelligence Systems, **13** (1)(2020), 1429-1446. **2.259**
279. **Akram, M.** and Ali, G., *Hybrid models for decision-making based on rough Pythagorean fuzzy bipolar soft information*, Granular Computing, **5** (1)(2020), 1-5.
280. **Akram, M.**, Luqman, A. and Al-Kenani, A. N., *Certain models of granular computing based on rough fuzzy approximations*, Journal of Intelligent and Fuzzy Systems, **39** (3)(2020), 2797-2816. **IF=1.851**
281. Siddique, S., Ahmad, U., Wardat, S., **Akram, M.** and Smarandache, F., *Representation of competitions by complex neutrosophic information*, Journal of Intelligent and Fuzzy Systems, **39** (5)(2020), 7881-7897. **IF=1.851**
282. **Akram, M.**, Muhammad, G., Allahviranloo, T. and Hussain, N., *LU decomposition method to solve bipolar fuzzy linear systems*, Journal of Intelligent and Fuzzy Systems, **39** (3)(2020), 3329-3349. **IF=1.851**

283. Saqib, M., **Akram, M.** and Bashir, S., *Certain efficient iterative methods for bipolar fuzzy system of linear equations*, Journal of Intelligent & Fuzzy Systems, **39** (3)(2020), 3971-3985. **IF=1.851**
284. **Akram, M.**, Peng, X., Al-Kenani, A. N. and Sattar, A., *Prioritized weighted aggregation operators under complex Pythagorean fuzzy information*, Journal of Intelligent & Fuzzy Systems, **39** (3)(2020), 4763-4783. **IF=1.851**
285. Liu, P., **Akram, M.** and Sattar, A., *Extensions Of prioritized weighted aggregation operators for decision-making under complex q -rung orthopair fuzzy information*, Journal of Intelligent and Fuzzy Systems, **39** (5)(2020), 7469-7493. **IF=1.851**
286. **Akram, M** and Adeel, A., *Novel hybrid decision-making methods based on $m.F$ rough information*, Granular Computing, **5**(2020), 185–201.
287. Adeel, A., **Akram, M.**, Yaqoob, N. and Chammam, W., *Detection and severity of tumor cells by graded decision-making methods under fuzzy N -soft model*, Journal of Intelligent and Fuzzy Systems, **39** (1)(2020), 1303–1318. **IF=1.851**
288. **Akram, M.**, Bashir, A. and Samanta, S., *Complex Pythagorean fuzzy planar graphs*, International Journal of Applied and Computational Mathematics, **6**, (58)(2020).
289. **Akram, M.**, Dudek, W. A., Habib, A. and Al-Kenani, A. N., *Imperfect competition models in economic market structure with q -rung picture fuzzy information*, Journal of Intelligent & Fuzzy Systems, **38** (4)(2020), 5107-5126. **IF=1.851**
290. **Akram, M.** and Shum, K. P., *A survey on single-valued neutrosophic K – algebras*, Journal of Mathematical Research with Applications, **40** (3)(2020), 221-245.
291. **Akram, M.**, Shumaiza and Alcantud, J. C. R., *An m -polar fuzzy PROMETHEE approach for AHP-assisted group decision-making*, Mathematical and Computational Applications, **25** (2)(2020), 26.
292. **Akram, M.** and Sattar, A., *Competition graphs under complex Pythagorean fuzzy information*, Journal of Applied Mathematics and Computing, **63**(2020), 543-583.
293. Sarwar, M., **Akram, M.** and Ali, M., *Double dominating energy of m -Polar fuzzy graphs*, Journal of Intelligent & Fuzzy Systems, **38** (2)(2020), 1997-2008. **IF=1.851**
294. Shahzadi, G., **Akram, M.** and Davvaz, B., *Pythagorean fuzzy soft graphs with applications*, Journal of Intelligent & Fuzzy Systems, **38** (4)(2020), 4977-4991. **IF=1.851**
295. **Akram, M.**, Naz, S. and Ziaa, F., *Dual hesitant q -rung orthopair fuzzy Hamacher graphs with application*, Journal of Multiple-Valued Logic & Soft Computing, **35**(2020), 509-543. **0.879**
296. Hoseini, B. S., **Akram, M.**, Hosseini, M. S., Rashmanlou, H. and Borzooei, R. A., *Maximal product of graphs under vague environment*, Mathematical and Computational Applications, **25** (1)(2020), 10.

297. **Akram, M.**, Saleem D. and Al-Hawary, T., *Spherical fuzzy graphs with application to decision-making*, Mathematical and Computational Applications, **25** (1)(2020), 8.
298. **Akram, M.**, Shahzadi, G. and Shum, K. P., *Operations on m -polar fuzzy r -uniform hypergraphs*, Southeast Asian Bulletin of Mathematics, **44**(2020), 1–16.
299. **Akram, M.** and Ali, G., *Hybrid models for decision-making based on rough Pythagorean fuzzy bipolar soft information*, Granular Computing, **5**(2020), 1-15.
300. **Akram, M.**, Dudek, W. A. and Ilyas, F., *Group decision making based on Pythagorean fuzzy TOPSIS method*, International Journal of Intelligent Systems, **34**(2019), 1455-1475. **IF=10.312**
301. **Akram, M.**, Dudek, W. A. and Dar, J. M., *Pythagorean Dombi fuzzy aggregation operators with application in multi-criteria decision-making*, International Journal of Intelligent Systems, **34**(2019), 3000-3019. **IF=10.312**
302. **Akram, M.**, Adeel, A. and Alcantud, J. C. R., *Group decision-making methods based on hesitant N -soft sets*, Expert Systems with Applications, **115**(2019), 95–105. **IF=5.452**
303. **Akram, M.** and Adeel, A., *TOPSIS approach for MAGDM based on interval-valued hesitant fuzzy N -soft environment*, International Journal of Fuzzy Systems, **21** (3)(2019), 993-1009. **IF=4.406**
304. **Akram, M.**, Waseem, N. and Liu, P., *Novel approach in decision making with m -polar fuzzy ELECTRE-I*, International Journal of Fuzzy Systems, **21** (4)(2019), 1117-1129. **IF=4.406**
305. **Akram, M.**, Naz, S., and Davvaz, B., *Simplified interval-valued Pythagorean fuzzy graphs with application*, Complex & Intelligent Systems, **5** (2)(2019), 229-253. **IF=3.791**
306. **Akram, M.**, Dar, J. M. and Naz, S., *Certain graphs under Pythagorean fuzzy environment*, Complex & Intelligent Systems, **5** (2)(2019), 127-144. **IF=3.791**
307. Zhan, J., Malik, H. M. and **Akram, M.**, *Novel decision-making algorithms based on intuitionistic fuzzy rough environment*, International Journal of Machine Learning and Cybernetics, **10**(6)(2019), 1459-1485. **IF=3.753**
308. Zhan, J., **Akram, M.** and Sitara, M., *Novel decision-making method based on bipolar neutrosophic information*, Soft Computing, **23**(20)(2019), 9955-9977. **IF=3.050**
309. **Akram, M.**, Ali, G. and Alcantud, J. C. R., *New decision-making hybrid model: Intuitionistic fuzzy N -soft rough sets*, Soft Computing, **23** (20)(2019), 9853-9868. **IF=3.050**
310. Adeel, A., **Akram, M.** and Koam, A. N. A., *Multi-criteria decision-making under mHF ELECTRE-I and HmF ELECTRE-I*, Energies, **12** (9)(2019), 1661. **IF=2.702**
311. Waseem, N., **Akram, M.** and Alcantud, J. C. R., *Multi-attribute decision-making based on m -polar fuzzy Hamacher aggregation operators*, Symmetry, **11** (12)(2019), 1498. **IF=2.645**

312. Ali, G., **Akram, M.**, Koam, A. N. A. and Alcantud, J. C. R., *Parameter reductions of bipolar fuzzy soft sets with their decision-making algorithms*, *Symmetry*, **11** (8)(2019), 949. **IF=2.645**
313. Adeel, A., **Akram, M.** and Koam, A. N. A., *Group decision-making based on m -polar fuzzy linguistic TOPSIS method*, *Symmetry*, **11** (6)(2019), 735. **IF=2.645**
314. **Akram, M.**, Naz, S. and Smarandache, F., *Generalization of maximizing deviation and TOPSIS method for MADM in simplified neutrosophic hesitant fuzzy environment*, *Symmetry*, **11** (8)(2019), 1058. **IF=2.645**
315. Luqman, A., **Akram, M.** and Koam, A. N. A., *An m -polar fuzzy hypergraph model of granular computing*, *Symmetry*, **11** (4)(2019), 483. **IF=2.645**
316. Shumaiza, **Akram, M.**, Al-Kenani, A. N. and Alcantud, J. C. R., *Group decision-making based on the VIKOR method with trapezoidal bipolar fuzzy information*, *Symmetry*, **11** (10)(2019), 1313. **IF=2.645**
317. Luqman, A., **Akram, M.**, Al-Kenani, A. N. and Alcantud, J. C. R., *A study on hypergraph representations of complex fuzzy information*, *Symmetry*, **11** (11)(2019), 1381. **IF=2.645**
318. **Akram, M.**, Adeel, A. and Alcantud, J. C. R., *Multi-criteria group decision-making using an m -polar hesitant fuzzy TOPSIS approach*, *Symmetry*, **11** (6)(2019), 795. **IF=2.645**
319. **Akram, M.**, Habib, A. and Koam, A. N. A., *A novel description on edge-regular q -rung picture fuzzy graphs with application*, *Symmetry*, **11** (4)(2019), 489. **IF=2.645**
320. Adeel, A., **Akram, M.**, Ahmed, I. and Nazar, K., *Novel m -polar fuzzy linguistic ELECTRE-I method for group decision-making*, *Symmetry*, **11** (4)(2019), 471. **IF=2.645**
321. **Akram, M.**, Saleem, D. and Allahviranloo, T., *Linear system of equations in m -polar fuzzy environment*, *Journal of Intelligent & Fuzzy Systems*, **37** (6)(2019), 8251-8266. **IF=1.851**
322. Luqman, A., **Akram, M.** and Davvaz, B., *q -Rung orthopair fuzzy directed hypergraphs: A new model with applications*, *Journal of Intelligent & Fuzzy Systems*, **37** (3)(2019), 3777-3794. **IF=1.851**
323. **Akram, M.** and Adeel, A., *Novel TOPSIS method for group decision making based on hesitant m -polar fuzzy model*, *Journal of Intelligent & Fuzzy Systems*, **37** (6)(2019), 8077-8096. **IF=1.851**
324. **Akram, M.**, Muhammad, G. and Hussian, N., *Bipolar fuzzy system of linear equations with polynomial parametric form*, *Journal of Intelligent & Fuzzy Systems*, **37** (6)(2019), 8275-8287. **IF=1.851**
325. **Akram, M.**, Adeel, A. and Alcantud, J. C. R., *Hesitant fuzzy N -soft sets: a new model with applications in decision-making*, *Journal of Intelligent & Fuzzy Systems*, **36** (6)(2019), 6113-6127. **IF=1.851**

326. **Akram, M.**, Ilyas F. and Saeid, A. B., *Certain notions of Pythagorean fuzzy graphs*, Journal of Intelligent and Fuzzy Systems, **36** (6)(2019), 5857-5874. **IF=1.851**
327. **Akram, M.**, Ali, G. and Alcantud, J. C. R., *Hybrid multi-attribute decision-making model based on (m, N) -soft rough sets*, Journal of Intelligent and Fuzzy Systems, **36** (6)(2019), 6325-6342. **IF=1.851**
328. **Akram, M.** and Zafar, F., *A new approach to compute measures of connectivity in rough fuzzy network models*, Journal of Intelligent and Fuzzy Systems, **36** (1)(2019), 449-465. **IF=1.851**
329. **Akram, M.**, Muhammad, G., Koam, A. N. A. and Hussain, N., *Iterative methods for solving a system of linear equations in a bipolar fuzzy environment*, Mathematics, **7** (8)(2019), 728. **IF=1.747**
330. Luqman, A., **Akram, M.** and Koam, A. N. A., *Granulation of hypernetwork models under the q -rung picture fuzzy environment*, Mathematics, **7** (6)(2019), 496. **IF=1.747**
331. Sitara, M., **Akram, M.** and Bhatti, M. Y., *Fuzzy graph structures with application*, Mathematics, **7** (1)(2019), 63. **IF=1.747**
332. Luqman, A., **Akram, M.** and Al-Kenani, A. N., *q -Rung orthopair fuzzy hypergraphs with applications*, Mathematics, **7** (3)(2019), 260. **IF=1.747**
333. Rehman, A., Hussain, M., Farooq, A. and **Akram, M.**, *Consensus based multi-person decision making with incomplete fuzzy preference relations using product transitivity*, Mathematics, **7** (2)(2019), 185. **IF=1.747**
334. Habib, A., **Akram, M.** and Farooq, M., *q -Rung orthopair fuzzy competition graphs with application in the soil ecosystem*, Mathematics, **7** (1)(2019), 91. **IF=1.747**
335. **Akram, M.** and Arshad, M., *A novel trapezoidal bipolar fuzzy TOPSIS method for group decision-making*, Group Decision and Negotiation, **28**(2019), 565-584. **IF=1.612**
336. Naz, S. and **Akram, M.**, *Novel decision making approach based on hesitant fuzzy sets and graph theory*, Computational and Applied Mathematics, **38** (7)(2019), 1-26. **IF=1.360**
337. **Akram, M.**, Muhammad, G. and Allahviranloo, T., *Bipolar fuzzy linear system of equations*, Computational and Applied Mathematics, **38**(2019), 69. **IF=1.360**
338. **Akram, M.** and Habib, A. *q -Rung picture fuzzy graphs: a creative view on regularity with applications*, Journal of Applied Mathematics and Computing, **61** (1-2)(2019), 235-280. **IF=1.242**
339. **Akram, M.**, Saleem, D. and Davvaz, B., *Energy of double dominating bipolar fuzzy graphs*, Journal of Applied Mathematics and Computing, **61** (1-2)(2019), 219-234. **IF=1.242**
340. **Akram, M.** and Sitara, M., *Certain fuzzy graph structures*, Journal of Applied Mathematics and Computing, **61** (1-2)(2019), 25-56. **IF=1.242**

341. Habib, S. and **Akram, M.**, *Medical decision support systems based on fuzzy cognitive maps*, International Journal of Biomathematics, **12** (6)(2019), 1950069. **IF=1.050**
342. **Akram, M.**, Habib, A. and Davvaz, B., *Direct sum of n Pythagorean fuzzy graphs with application to group decision-making*, Journal of Multiple-Valued Logic and Soft Computing, **33** (1-2)(2019), 75-115. **IF=0.613**
343. **Akram, M.**, Dar, J. M. and Shahzadi, S., *Decision making approach under Pythagorean Dombi fuzzy graphs for selection of leading textile industry*, Mathematical and Computational Applications, **24** (4)(2019), 102.
344. Shahzadi, G. and **Akram, M.**, *Hypergraphs based on Pythagorean fuzzy soft model*, Mathematical and Computational Applications, **24** (4)(2019), 100.
345. Luqman, A., **Akram, M.** and Smarandache, F., *Complex neutrosophic hypergraphs: new social network models*, Algorithms, **12** (11)(2019), 234.
346. Shumaiza, **Akram, M.** and Al-Kenani, A. N., *Multiple-attribute decision making ELECTRE II method under bipolar fuzzy model*, Algorithms, **12** (11)(2019), 226.
347. **Akram, M.** and Naz, S., *A novel decision-making approach under complex Pythagorean fuzzy environment*, Mathematical and Computational Applications, **24** (3)(2019), 73.
348. **Akram, M.**, Ishfaq, N., Smarandache, F. and Broumi, S., *Application of bipolar neutrosophic sets to incidence graphs*, Neutrosophic Sets and Systems, **27**(2019), 180-200.
349. **Akram, M.** and Maham A., *Ranking of trapezoidal bipolar fuzzy information system based on total ordering*, Applied Mathematics E-Notes, **19**(2019), 292-309.
350. **Akram, M.**, Gulzar, H. and Shum, K. P., *Certain notions of single-valued neutrosophic K -algebras*, Italian Journal of Pure and Applied Mathematics, **42**(2019), 271-289.
351. **Akram, M.** and Waseem, N., *Similarity measures for new hybrid models: mF sets and mF soft sets*, Punjab University Journal of Mathematics, **51** (6)(2019), 115-130.
352. **Akram, M.**, Gulzar, H. and Smarandache, F., *Neutrosophic soft topological K -algebras*, Neutrosophic Sets and Systems, **25**(2019), 104-124.
353. **Akram, M.**, Gulzar, H. and Shum, K. P., *Single-valued neutrosophic Lie algebras*, Journal of Mathematical Research with Applications, **39** (2)(2019), 141-152.
354. Luqman, A., **Akram, M.** and Smarandache, F., *Complex Neutrosophic Hypergraphs: New Social Network Models*, Algorithms, **12**(11)(2019), 234.
355. **Akram, M.** and Shahzadi, S., *Novel intuitionistic fuzzy soft multiple-attribute decision-making methods*, Neural Computing and Applications, **29** (7)(2018), 435-447. **IF=4.664**

356. **Akram, M.** and Sarwar, M., *Novel applications of m -polar fuzzy competition graphs in decision support system*, Neural Computing and Applications, **30** (10)(2018), 3145-3165. **IF=4.664**
357. Alghamdi, M. A., Alshehri, N. O. and **Akram, M.**, *Multi-criteria decision-making methods in bipolar fuzzy environment*, International Journal of Fuzzy Systems, **20** (6)(2018), 2057-2064. **IF=3.085**
358. Zafar, F. and **Akram, M.**, *A novel decision making method based on rough fuzzy information*, International Journal of Fuzzy Systems, **20** (3)(2018), 1000-1014. **IF=3.085**
359. **Akram, M.**, Maham, A. and Shumaiza, *Fuzzy rough graph theory with applications*, International Journal of Computational Intelligence Systems, **12**(2018), 1875-6883. **IF=2.153**
360. Sarwar M., **Akram, M.** and Alshehri, N. O., *A new method to decision-making with fuzzy competition hypergraphs*, Symmetry, **10** (9)(2018), 404. **IF=2.143**
361. Alsager, K. M., Alshehri, N. O. and **Akram, M.**, *A decision-making approach based on multi q -hesitant fuzzy soft multi-granulation rough model*, Symmetry, **10** (12)(2018), 711. **IF=2.143**
362. **Akram, M.**, Adeel, A. and Alcantud, J. C. R., *Fuzzy N -soft sets: A novel model with applications*, Journal of Intelligent & Fuzzy Systems, **35** (4)(2018), 4757-4771. **IF=1.637**
363. **Akram, M.**, Sarwar, M. and Borzooei, R. A., *A novel decision-making approach based on hypergraphs in intuitionistic fuzzy environment*, Journal of Intelligent & Fuzzy Systems, **35** (2)(2018), 1905-1922. **IF=1.637**
364. **Akram, M.** and Zafar, F., *Multi-criteria decision-making methods under soft rough fuzzy knowledge*, Journal of Intelligent & Fuzzy Systems, **35** (3)(2018), 3507-3528. **IF=1.637**
365. **Akram, M.**, Ali, G., Waseem, N. and Davvaz, B., *Decision-making methods based on hybrid mF models*, Journal of Intelligent & Fuzzy Systems, **35** (3)(2018), 3387-3403. **IF=1.637**
366. Malik, H. M. and **Akram, M.**, *A new approach based on intuitionistic fuzzy rough graphs for decision-making*, Journal of Intelligent and Fuzzy Systems, **34** (4)(2018), 2325-2342. **IF=1.637**
367. Sarwar, M. and **Akram, M.**, *Bipolar fuzzy circuits with applications*, Journal of Intelligent and Fuzzy Systems, **34** (1)(2018), 547-558. **IF=1.637**
368. **Akram, M.**, Shumaiza and Maham, A., *A new approach based on fuzzy rough digraphs for decision-making*, Journal of Intelligent & Fuzzy Systems, **35** (2)(2018), 2105-2121. **IF=1.637**
369. **Akram, M.**, Feng, F., Saeid, A. B. and Fotea, V., *A new multiple criteria decision-making method based on bipolar fuzzy soft graphs*, Iranian Journal of Fuzzy Systems, **15** (4)(2018), 73-92. **IF=1.496**

370. **Akram, M.**, Dar, J. M. and Farooq, A., *Planar graphs under Pythagorean fuzzy environment*, Mathematics, **6** (12)(2018), 278. **IF=1.105**
371. **Akram, M.**, Gulzar, H., Smarandache, F. and Broumi, S., *Certain notions of neutrosophic topological K -algebras*, Mathematics, **6** (11)(2018), 234. **IF=1.105**
372. Sarwar, M. and **Akram, M.**, *Certain algorithms for modeling uncertain data using fuzzy tensor product Bezier surfaces*, Mathematics, **6** (3)(2018), 42. **IF=1.105**
373. **Akram, M.** and Shahzadi, G., *Hypergraphs in m -polar fuzzy environment*, Mathematics, **6** (2)(2018), 28. **IF=1.105**
374. Ishfaq, N., Sayed, S., **Akram, M.** and Smarandache, F., *Notions of rough neutrosophic digraphs*, Mathematics, **6** (2)(2018), 18. **IF=1.105**
375. Naz, S., Ashraf, S. and **Akram, M.**, *A novel approach to decision-making with Pythagorean fuzzy information*, Mathematics, **6** (6)(2018), 95. **IF=1.105**
376. **Akram, M.** and Naz, S., *Energy of Pythagorean fuzzy graphs with applications*, Mathematics, **6** (8)(2018), 136. **IF=1.105**
377. Malik, H. M., **Akram, M.** and Smarandache, F., *Soft rough neutrosophic influence graphs with application*, Mathematics, **6** (7)(2018), 125. **IF=1.105**
378. Shaista, H. and **Akram, M.**, *Diagnostic methods and risk analysis based on fuzzy soft information*, International Journal of Biomathematics, **11** (8)(2018), 1850096. **IF=0.894**
379. **Akram, M.** and Nasir, M., *Novel applications of bipolar neutrosophic competition graphs*, Applied Mathematics-A Journal of Chinese Universities, **33** (4)(2018), 436-467. **IF=0.806**
380. Yaqoob, N. and **Akram, M.**, *Complex neutrosophic graphs*, Bulletin of Computational Applied Mathematics, **6** (2)(2018), 85-109.
381. Rashid, S., Yaqoob, N., **Akram, M.** and Gulistan, M., *Cubic graphs with application*, International Journal of Analysis and Applications, **16** (5)(2018), 733-750.
382. Sarwar, M., **Akram, M.** and Zafar, F., *Decision making approach based on competition graphs and extended TOPSIS method under bipolar fuzzy environment*, Mathematical and Computational Applications, **23** (4)(2018), 68.
383. **Akram, M.**, Gulzar, H., Smarandache, F. and Broumi, S., *Application of neutrosophic soft sets to K -Algebras*, Axioms, **7** (4)(2018), 83.
384. **Akram, M.**, *Level graphs of intuitionistic fuzzy graphs*, Annals of Fuzzy Mathematics and Informatics, **16** (1)(2018), 55-70.
385. **Akram, M.**, Habib, A., Ilyas, F. and Dar, J. M., *Specific types of Pythagorean fuzzy graphs and application to decision-making*, Mathematical and Computational Applications, **23** (3)(2018), 42.

386. **Akram, M.**, Ishfaq, N., Sayed, S. and Smarandache, F., *Decision-making approach based on neutrosophic rough information*, Algorithms, **11** (5)(2018), 59.
387. Naz, S., **Akram, M.** and Smarandache, F., *Certain notions of energy in single-valued neutrosophic graphs*, Axioms, **7** (3)(2018), 50.
388. **Akram, M.**, Sayed, S. and Smarandache, F., *Neutrosophic incidence Graphs with application*, Axioms, **7** (3)(2018), 47.
389. **Akram, M.** and Siddique, S., *Certain single-valued neutrosophic graphs*, The Journal of Fuzzy Mathematics,
390. **Akram, M.**, Siddique, S. and Shum, K. P., *Certain properties of bipolar neutrosophic graphs*, Southeast Asian Bulletin of Mathematics, **42** (4)(2018), 463-490.
391. **Akram, M.**, Shumaiza and Smarandache, F., *Decision-making with bipolar neutrosophic TOPSIS and bipolar neutrosophic ELECTRE-I*, Axioms, **7**(2018), 33.
392. **Akram, M.** and Luqman, A., *A new decision-making method based on bipolar neutrosophic directed hypergraphs*, Journal of Applied Mathematics and Computing, **57**(2018), 547-575.
393. **Akram, M.**, Siddique, S. and Davvaz, B., *New Concepts in neutrosophic graphs with application*, Journal of Applied Mathematics and Computing, **57** (12)(2018), 279-302.
394. **Akram, M.** and Sarwar, M., *New applications of m-polar fuzzy competition graphs*, New Mathematics and Natural Computation, **14** (2)(2018), 249-276.
395. **Akram, M.**, Shahzadi, S. and Saeid, A. B., *Single-valued neutrosophic hypergraphs*, TWMS Journal of Applied and Engineering Mathematics, **8** (1)(2018), 122-135.
396. **Akram, M.** and Nasir, M., *Certain bipolar neutrosophic competition graphs*, Journal of the Indonesian Mathematical Society, **24** (1)(2018), 1-25.
397. **Akram, M.** and Sitara, M., *Novel applications of single-valued neutrosophic graph structures in decision-making*, Journal of Applied Mathematics and Computing, **56** (1-2)(2018), 501-532.
398. **Akram, M.** and Waseem, N., *Novel applications of bipolar fuzzy graphs to decision making problems*, Journal of Applied Mathematics and Computing, **56** (1-2)(2018), 73-91.
399. Shahzadi, S. and **Akram, M.**, *Graphs in an intuitionistic fuzzy soft environment*, Axioms, **7** (2)(2018), 20.
400. **Akram, M.**, Shahzadi, S. and Smarandache, F., *Multi-attribute decision-making method based on neutrosophic soft rough information*, Axioms, **7** (1)(2018), 19.
401. Sayed, S., Ishfaq, N., **Akram, M.** and Smarandache, F., *Rough neutrosophic digraphs with application*, Axioms, **7** (1)(2018), 5.

402. **Akram, M.**, Malik, H. M., Shahzadi, S. and Smarandache, F., *Neutrosophic soft rough graphs with application*, *Axioms*, **7** (1)(2018), 14.
403. **Akram, M.** and Sitara, M., *Interval-valued neutrosophic graph structures*, *Punjab University Journal of Mathematics*, **50** (1)(2018), 35-58.
404. **Akram, M.** and Sarwar, M., *Novel applications of m -polar fuzzy hypergraphs*, *Journal of Intelligent and Fuzzy Systems*, **32** (3)(2017), 2747-2762. **IF=1.426**
405. **Akram, M.** and Luqman, A., *Certain network models using single-valued neutrosophic directed hypergraphs*, *Journal of Intelligent and Fuzzy Systems*, **33** (1)(2017), 575-588. **IF=1.426**
406. **Akram, M.** and Shahzadi, S., *Neutrosophic soft graphs with application*, *Journal of Intelligent and Fuzzy Systems*, **32** (1)(2017), 841-858. **IF=1.426**
407. **Akram, M.** and Sarwar, M., *Transversals of m -polar fuzzy hypergraphs with applications*, *Journal of Intelligent and Fuzzy Systems*, **33** (1)(2017), 351-364. **IF=1.426**
408. **Akram, M.** and Luqman, A., *Bipolar neutrosophic hypergraphs with applications*, *Journal of Intelligent and Fuzzy Systems*, **33** (3)(2017), 1699-1713. **IF=1.426**
409. **Akram, M.** and Siddique, S., *Neutrosophic competition graphs with applications*, *Journal of Intelligent and Fuzzy Systems*, **33** (2)(2017), 921-935. **IF=1.426**
410. **Akram, M.**, Waseem, N. and Dudek, W. A., *Certain types of edge m -polar fuzzy graphs*, *Iranian Journal of Fuzzy Systems*, **14** (4)(2017), 27-50. **IF=1.270**
411. **Akram, M.**, Ali, G. and Alshehri, N. O., *A new multi-attribute decision-making method based on m -polar fuzzy soft rough sets*, *Symmetry*, **9** (11)(2017), 271. **IF=1.256**
412. Sarwar, M. and **Akram, M.**, *New applications of m -polar fuzzy matroids*, *Symmetry*, **9** (12)(2017), 319. **IF=1.256**
413. Sarwar, M. and **Akram, M.**, *New applications of m -polar fuzzy matroids*, *Symmetry*, **9** (12)(2017), 319. **IF=1.256**
414. **Akram, M.**, Waseem, N. and Davvaz, B., *Certain types of domination in m -polar fuzzy graphs*, *Journal of Multiple-Valued Logic and Soft Computing*, **29** (5)(2017), 619-646. **IF=0.510**
415. Sarwar, M. and **Akram, M.**, *Certain algorithms for computing strength of competition in bipolar fuzzy graphs*, *International Journal of Uncertainty, Fuzziness and Knowledge-Based Systems*, **25** (6)(2017), 877-896. **IF=1.159**
416. Karunambigai, M. G., **Akram, M.**, Sivasankar, S. and Palanivel, K., *Clustering algorithm for intuitionistic fuzzy graphs*, *International Journal of Uncertainty, Fuzziness and Knowledge-Based Systems*, **25** (3)(2017), 367-383. **IF=1.159**

417. **Akram, M.**, Sitara, M. and Smarandache, F., *Graph structures in bipolar neutrosophic environment*, Mathematics, **5** (4)(2017), 60.
418. Shahzadi, S. and **Akram, M.**, *Intuitionistic fuzzy soft graphs with applications*, Journal of Applied Mathematics and Computing, **55** (1-2)(2017), 369-392.
419. **Akram, M.** and Younas H. R., *Certain types of irregular m -polar fuzzy graphs*, Journal of Applied Mathematics and Computing, **53** (1)(2017), 365-382.
420. Sarwar, M. and **Akram, M.**, *Novel concepts of bipolar fuzzy competition graphs*, Journal of Applied Mathematics and Computing, **54**(2017), 511-547.
421. **Akram, M.** and Adeel, A., *m -polar fuzzy graphs and m -polar fuzzy line graphs*, Journal of Discrete Mathematical Sciences & Cryptography, **20** (8)(2017), 1597-1617.
422. **Akram, M.** and Sitara, M., *Single-valued neutrosophic graph structures*, Applied Mathematics E-Notes, **17**(2017), 277-296.
423. **Akram, M.** and Sitara, M., *Certain concepts in intuitionistic neutrosophic graph structures*, Information, **8** (4)(2017), 154.
424. **Akram, M.** and Nasir, M., *Certain competition graphs based on intuitionistic neutrosophic environment*, Information, **8** (4)(2017), 132.
425. **Akram, M.** and Waseem, N., *Novel decision making method based on domination in m -polar fuzzy graphs*, Communications of the Korean Mathematical Society, **32** (4)(2017), 1077-1097.
426. Sarwar, M. and **Akram, M.**, *Novel applications of m -polar fuzzy concept lattice*, New Mathematics and Natural Computation, **13** (3)(2017), 196-222.
427. **Akram, M.** and Luqman, A., *Intuitionistic single-valued neutrosophic hypergraphs*, OPSEARCH, **54** (4)(2017), 799-815.
428. **Akram, M.** and Nasir, M., *Interval-valued neutrosophic competition graphs*, Annals of Fuzzy Mathematics and Informatics, **14** (1)(2017), 99-120.
429. **Akram, M.** and Sarwar, M., *Representation of graphs using m -polar fuzzy environment*, Italian Journal of Pure and Applied Mathematics, **38**(2017), 291-312.
430. **Akram, M.** and Sarwar, M., *Novel multiple criteria decision making methods based on bipolar neutrosophic sets and bipolar neutrosophic graphs*, Italian journal of Pure and Applied Mathematics, **38**(2017), 368-389.
431. **Akram, M.** and Tahir, M., *Fuzzy soft lines graphs*, The Journal of Fuzzy Mathematics, **25** (2)(2017), 403-422.
432. **Akram, M.** and Sitara, M., *Representation of graph structure based on I-V neutrosophic sets*, International Journal of Algebra and Statistics, **6** (1-2)(2017), 56-80.

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433. Shahzadi, G., **Akram, M.** and Saeid, A. B., *An application of single-valued neutrosophic sets in medical diagnosis*, *Neutrosophic Sets and Systems*, **18**(2017), 80-88.
434. **Akram, M.** and Shahzadi, G., *Certain characterization of m -polar fuzzy graphs by level graphs*, *Punjab University Journal of Mathematics*, **49** (1)(2017), 1-12.
435. **Akram, M.** and Shahzadi, G., *Operations on single-valued neutrosophic graphs*, *Journal of Uncertain Systems*, **11** (3)(2017), 176-196.
436. **Akram, M.** and Akmal, R., *Intuitionistic fuzzy graph structures*, *Kragujevac Journal of Mathematics*, **41** (2)(2017), 219-237.
437. **Akram, M.** and Adeel, A., *Representation of labeling tree based on m -polar fuzzy sets*, *Annals of Fuzzy Mathematics and Informatics*, **13** (2)(2017), 189-197.
438. **Akram, M.** and Luqman, A., *Certain concepts of bipolar fuzzy directed hypergraphs*, *Mathematics*, **5** (1)(2017), 1-18.
439. Nasir, M., Siddique, S. and **Akram, M.**, *Novel properties of intuitionistic fuzzy competition graphs*, *Journal of Uncertain Systems*, **2** (1)(2017), 49-67.
440. **Akram, M.** and Nasir, M., *Concepts of interval-valued neutrosophic graphs*, *International Journal of Algebra and Statistics*, **6** (1-2)(2017), 22-41.
441. **Akram, M.** and Sitara, M., *Bipolar neutrosophic graph structures*, *Journal of the Indonesian Mathematical Society*, **23** (1)(2017), 55-76.
442. Shaista, H., **Akram, M.** and Ashraf, A., *A fuzzy climate decision support systems for tomatoes in high tunnels*, *International Journal of Fuzzy Systems*, **19** (3)(2017), 751-775.
443. **Akram, M.**, Samanta, S. and Pal, M., *Application of bipolar sets in planar graphs*, *Journal of Applied and Computational Mathematics*, **3**(2017), 773-785.
444. Butt, M. A. and **Akram, M.**, *A novel fuzzy decision making system for cpu scheduling algorithm*, *Neural Computing & Applications*, **27** (7)(2016), 1927-1939. **IF=2.50**
445. Myithili, K. K., Parvathi R. and **Akram, M.**, *Certain types of intuitionistic fuzzy directed hypergraphs*, *International Journal of Machine Learning and Cybernetics*, **7** (2)(2016), 287-295. **IF=1.699**
446. Gani, A. N., **Akram, M.** and Rajalaxmi(a)subahashini, D., *Certain types of fuzzy sets in a fuzzy graph*, *International Journal of Machine Learning and Cybernetics*, **7**(2016), 573-579. **IF=1.699**
447. **Akram, M.** and Nawaz, S., *Fuzzy soft graphs with applications*, *Journal of Intelligent and Fuzzy Systems*, **30** (6)(2016), 3619-3632. **IF=1.261**
448. Sarwar M. and **Akram, M.**, *An algorithm for computing certain metrics in intuitionistic fuzzy graphs*, *Journal of Intelligent and Fuzzy Systems*, **30**(2016), 2405-2416. **IF=1.261**

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449. Karunambigai, M. G., **Akram, M.** and Buvaneswari, R., *Strong and superstrong vertices in intuitionistic fuzzy graphs*, Journal of Intelligent and Fuzzy Systems, **30**(2016), 671-678. **IF=1.261**
450. Shahzadi, S. and **Akram, M.**, *Edge regular intuitionistic fuzzy soft graphs*, Journal of Intelligent and Fuzzy Systems, **31** (3)(2016), 1881-1895. **IF=1.261**
451. Butt, M. A. and **Akram, M.**, *A new intuitionistic fuzzy rule-based decision-making system for an operating system process scheduler*, SpringerPlus, **5**(2016), 1-17. **IF=1.130**
452. **Akram, M.**, Akmal, R. and Alshehri, N., *On m -polar fuzzy graph structures*, SpringerPlus, **5**(2016), 1448. **IF=1.130**
453. **Akram, M.**, Alshehri, N. and Akmal, R., *Certain concepts in m -polar fuzzy graph structures*, Discrete Dynamics in Nature and Society, **2016**(2016), Article ID 6301693. **IF=0.711**
454. **Akram, M.**, Alshehri N. O., Davvaz, B. and Ashraf, A., *Bipolar fuzzy digraphs in decision support systems*, Journal of Multiple-Valued Logic and Soft Computing, **27** (5-6)(2016), 531-551. **IF=0.365**
455. **Akram, M.** and Nawaz, S., *Certain types of soft graphs*, University Politehnica of Bucharest Scientific Bulletin-Series A, **78** (4)(2016), 67-82. **IF=0.279**
456. **Akram, M.**, Farooq, A. and Shum, K. P., *On m -polar fuzzy Lie subalgebras*, Italian Journal of Pure and Applied Mathematics, **36**(2016), 445-454.
457. **Akram, M.** and Zafar, F., *Fuzzy soft trees*, Southeast Asian Bulletin of Mathematics, **40** (2)(2016), 151-170.
458. **Akram, M.** and Akmal, R., *Certain operations on bipolar fuzzy graph structures*, Applications and Applied Mathematics, **11** (1)(2016), 1-26.
459. **Akram, M.**, *Single-valued neutrosophic planar graphs*, International Journal of Algebra and Statistics, **5** (2)(2016), 157-167.
460. **Akram, M.** and Farooq, A., *m -polar fuzzy Lie ideals of Lie algebras*, Quasigroups and Related Systems, **24**(2016), 101-110.
461. **Akram, M.** and Adeel, A., *m -polar fuzzy labeling graphs with application*, Mathematics in Computer Science, **10** (3)(2016), 387-402.
462. **Akram, M.** and Waseem, N., *Certain metrics in m -polar fuzzy graphs*, New Mathematics and Natural Computation, **12** (02)(2016), 135-155.
463. Shahzadi, S. and **Akram, M.**, *Coloring of bifuzzy graphs*, Italian Journal of Pure and Applied Mathematics, **36**(2016), 429-444.
464. **Akram, M.** and Shahzadi, S., *Representation of graphs using intuitionistic neutrosophic soft sets*, Journal of Mathematical Analysis, **7** (6)(2016), 31-53.

465. **Akram, M.** and Akmal, R., *Application of bipolar fuzzy sets in graph structures*, Applied Computational Intelligence and Soft Computing, **6** (2)(2016), 1-13.
466. **Akram, M.** and Akmal, R., *Operations on intuitionistic fuzzy graph structures*, Fuzzy Information and Engineering, **8** (4)(2016), 389-410.
467. Gani, A.N., **Akram, M.** and Anupriya, S., *Double domination on intuitionistic fuzzy graphs*, Journal of Applied Mathematics and Computing, **52** (1-2)(2016), 515-528.
468. **Akram, M.**, Farooq, A., Saeid A. B. and Shum, K. P., *Certain types of vague cycles and vague trees*, Journal of Intelligent and Fuzzy Systems, **28** (2)(2015), 621-631. **IF=1.004**
469. **Akram, M.**, Davvaz, B. and Feng, F., *Fuzzy soft Lie algebras*, Journal of Multiple-Valued Logic and Soft Computing, **24** (5-6)(2015), 501-520. **IF=0.325**
470. Alshehri, N. O. and **Akram, M.**, *Bipolar fuzzy competition graphs*, Ars Combinatoria, **121**(2015), 385-402. **IF=0.265**
471. **Akram, M.** and Zafar, F., *On soft trees*, Buletinul Academiei de Stiinte a Republicii Moldova, **2** (78)(2015), 82-95.
472. **Akram, M.** and Nawaz, S., *Operations on soft graphs*, Fuzzy Information and Engineering, **7** (4)(2015), 423-449.
473. Shaista, H. and **Akram, M.**, *Decision-making system for washing machine using AIFNN*, Mathematical Sciences Letters, **4** (3)(2015), 303-311.
474. Gani, A. N., Devi, K. P. and **Akram, M.**, *Bondage and non-bondage number of a fuzzy graph*, International Journal of Pure and Applied Mathematics, **103** (2)(2015), 215-226.
475. **Akram, M.** and Nawaz, S., *On fuzzy soft graphs*, Italian Journal of Pure and Applied Mathematics, **34**(2015), 463-480.
476. **Akram, M.** and Alshehri, N. O., *Tempered interval-valued fuzzy hypergraphs*, University Politehnica of Bucharest Scientific Bulletin-Series A, **77** (1)(2015), 39-48. **IF=0.379**
477. **Akram, M.**, Dudek, W. A. and Yousaf, M. M., *Self centered interval-valued fuzzy graphs*, Afrika Matematika, **26** (5-6)(2015), 887-898.
478. Samanta, S., **Akram, M.** and Pal, M., *m-Step fuzzy competition graphs*, Journal of Applied Mathematics and Computing, **47** (1-2)(2015), 461-472.
479. Feng, F., **Akram, M.**, Davvaz, B. and Fotea, V. L., *Attribute analysis of information systems based on elementary soft implications*, Knowledge-Based Systems, **70**(2014), 281-292. **IF=2.947**
480. **Akram, M.**, Gani, A. N. and Saeid, A. B., *Vague hypergraphs*, Journal of Intelligent and Fuzzy Systems, **26**(2014), 647-653. **IF=1.812**

481. **Akram, M.**, Chen, W. J. and Davvaz, B., *On \mathcal{N} -hypergraphs*, Journal of Intelligent and Fuzzy Systems, **26**(2014), 2937-2944. **IF=1.812**
482. Ashraf, A., **Akram, M.** and Sarwar, S. M., *Fuzzy decision support system for fertilizer*, Neural Computing & Applications, **25** (6)(2014), 1495-1505. **IF=1.569**
483. Alshehri, N. O. and **Akram, M.**, *Intuitionistic fuzzy planar graphs*, Discrete Dynamics in Nature and Society, **2014**(2014), Article ID 397823. **IF=0.877**
484. **Akram, M.**, Feng, F., Sarwar, S. and Jun, Y. B., *Certain types of vague graphs*, University Politehnica of Bucharest Scientific Bulletin-Series A, **76** (1)(2014), 141-154. **IF=0.405**
485. Zhou, M., Shenggang, L. and **Akram, M.**, *Categorical properties of soft sets*, Scientific World Journal, **2014**(2014), Article ID 783056. **IF=2.367**
486. Gani, A. N., **Akram, M.** and Rajalaxmi(a)Subahashini, D., *Novel properties of fuzzy labeling graphs*, Journal of Mathematics, **2014**(2014), Article ID 375135.
487. **Akram, M.**, Ashraf, A. and Sarwar, S. M., *Novel applications of intuitionistic fuzzy digraphs in decision support systems*, Scientific World Journal, **2014**(2014), Article ID 904606. **IF=2.367**
488. Ashraf, A., **Akram, M.** and Sarwar, S. M., *Type-II fuzzy decision support system for fertilizer*, Scientific World Journal, **2014**(2014), Article ID 695815. **IF=2.367**
489. **Akram, M.** and Alshehri, N. O., *Intuitionistic fuzzy cycles and intuitionistic fuzzy trees*, Scientific World Journal, **2014**(2014), Article ID 305836. **IF=2.367**
490. **Akram, M.**, Shaista, H. and Javed, I., *Intuitionistic fuzzy logic control for washing machines*, Indian Journal of Science and Technology, **7** (5)(2014), 654-661.
491. **Akram, M.**, Dudek, W. A. and Yousaf, M. M., *Regularity in vague intersection graphs and vague line graphs*, Abstract and Applied Analysis, **2014**(2014), Article ID 525389. **IF=1.267**
492. **Akram, M.**, Alshehri, N. O., Shum, K. P. and Farooq, A., *Application of bipolar fuzzy soft sets in K -algebras*, Italian Journal of Pure and Applied Mathematics, **32** (1)(2014), 1-14.
493. **Akram, M.** and Dudek, W. A., *Intuitionistic fuzzy hypergraphs with applications*, Information Sciences, **218**(2013), 182-193. **IF=3.893**
494. **Akram, M.**, *Bipolar fuzzy graphs with applications*, Knowledge-Based Systems, **39**(2013), 1-8. **IF=3.058**
495. Parvathi, R., Malathi, C., **Akram, M.** and Atanassov, K. T., *Intuitionistic fuzzy linear regression analysis*, Fuzzy Optimization and Decision Making **12** (2)(2013), 215-229. **IF=1.000**

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42/56

496. Parvathi, R., **Akram, M.** and Thilagavathi, S., *Intuitionistic fuzzy shortest hyperpath in a network*, Information Processing Letters, **113**(2013), 599-603. **IF=0.479**
497. **Akram, M.**, Alshehri N. O. and Alghamdi, R. S., *Fuzzy soft K -algebras*, Utilitas Mathematica, **90**(2013), 307-325. **IF=0.316**
498. **Akram, M.** and Alshehri, N. O., *Vague Lie superalgebras*, Ars Combinatoria, **109**(2013), 327-344. **IF=0.200**
499. **Akram, M.**, Dudek, W. A. and Sarwar, S., *Properties of bipolar fuzzy hypergraphs*, Italian Journal of Pure and Applied Mathematics, **31**(2013), 426-458.
500. Alshehri, N. O. and **Akram, M.**, *Generalized bifuzzy soft Lie subalgebras*, Scientific World Journal, **2013**(2013), Article 365065. **IF= 1.219**
501. Alshehri, N. O. and **Akram, M.**, *Cayley bipolar fuzzy graphs*, Scientific World Journal, **2013**(2013), Article 156786. **IF= 1.219**
502. **Akram, M.**, Alshehri, N. O. and Dudek, W. A., *Certain types of interval-valued fuzzy graphs*, Journal of Applied Mathematics, **2013**(2013), Article ID 857070. **IF=0.720**
503. **Akram, M.**, Li, S. and Shum, K. P., *Antipodal bipolar fuzzy graphs*, Italian Journal of Pure and Applied Mathematics, **31**(2013), 425-438.
504. **Akram, M.**, Davvaz, B. and Feng, F., *Intuitionistic fuzzy soft K -algebras*, Mathematics in Computer Science, **7** (3)(2013), 353-365.
505. **Akram, M.**, Shahzad, S., Butt, A. and Khaliq, A., *Intuitionistic fuzzy logic control for heater fans*, Mathematics in Computer Science, **7** (3)(2013), 367-378.
506. **Akram, M.**, Chen, W. J. and Shum, K. P., *Some properties of vague graphs*, Southeast Asian Bulletin of Mathematics, **37**(2013), 307-324.
507. Alshehri N. O., **Akram, M.** and Alghamdi, R. S., *Applications of soft sets in K -algebras*, Advances in Fuzzy Systems, **2013**(2013), Article ID 319542.
508. **Akram, M.** and Feng, F., *Soft intersection Lie algebras*, Quasigroups and Related Systems, **21**(2013), 1-10.
509. **Akram, M.**, *Bipolar fuzzy soft Lie algebras*, Quasigroups and Related Systems, **21**(2013), 11-18.
510. **Akram, M.** and Dudek, W. A., *Regular bipolar fuzzy graphs*, Neural Computing & Applications, **21**(2012), 197-205. **IF=1.168**
511. **Akram, M.**, *Interval-valued fuzzy line graphs*, Neural Computing & Applications, **21**(2012), 145-150. **IF=1.168**

512. **Akram, M.** and Davvaz, B., *Strong intuitionistic fuzzy graphs*, FILOMAT, **26** (1)(2012), 177-196. **IF=0.714**
513. **Akram, M.** and Alshehri, N. O., *Bipolar fuzzy Lie ideals*, Utilitas Mathematica, **87**(2012), 265-278. **IF=0.280**
514. **Akram, M.** and Chen, W., *Generalized anti fuzzy Lie algebras*, Utilitas Mathematica, **87**(2012), 111-122. **IF=0.280**
515. Chen, W., **Akram, M.** and Guan, Y., *Intuitionistic fuzzy subcoalgebras of coalgebras*, Ars Combinatoria, **106**(2012), 423-434. **IF=0.278**
516. **Akram, M.** and Davvaz, B., *Generalized fuzzy ideals of K -algebras*, Journal of Multi-Valued and Soft Computing, **19**(2012), 475-491.
517. **Akram, M.** and Dar, K. H., *On \mathcal{N} -graphs*, Southeast Asian Bulletin of Mathematics, **36**(2012), 787-800.
518. **Akram, M.**, Chen, W. and Lin, Y., *Bipolar fuzzy Lie superalgebras*, Quasigroups and Related Systems, **20**(2012), 139-156.
519. **Akram, M.**, *Bipolar fuzzy graphs*, Information Sciences, **181**(2011), 5548-5564. **IF=2.833**
520. **Akram, M.**, Dar, K. H. and Shum, K. P., *Interval-valued (α, β) -fuzzy K -algebras*, Applied Soft Computing, **11** (1)(2011), 1213-1222. **IF=2.612**
521. **Akram, M.** and Dudek, W. A., *Interval-valued fuzzy graphs*, Computers & Mathematics with Applications, **61**(2011), 289-299. **IF=1.747**
522. **Akram, M.** and Alshehri, N. O., *Fuzzy K -ideals of K -algebras*, Ars Combinatoria, **99**(2011), 399-413. **IF=0.268**
523. Dar, K. H. and **Akram, M.**, *Characterizations of automorphic loops*, Annals of the University of Craiova-Mathematics and Computer Science Series, **38** (2)(2011), 69-80.
524. **Akram, M.**, *Cofuzzy graphs*, The Journal of Fuzzy Mathematics, **19** (4)(2011), 1-12.
525. Chen, W. and **Akram, M.**, *Interval-valued fuzzy structures on Lie superalgebras*, The Journal of Fuzzy Mathematics, **19** (4)(2011).
526. **Akram, M.**, Saeid, A. B., Shum, K. P. and Meng, B. L., *Bipolar fuzzy K -algebras*, International Journal of Fuzzy System, **10** (3)(2010), 252-258. **IF=1.020**
527. **Akram, M.** and Shum, K. P., *Interval-valued bifuzzy k -ideals of semirings*, The Journal of Fuzzy Mathematics, **18** (3)(2010), 757-774.
528. **Akram, M.** and Dudek, W. A., *Interval-valued $(\in, \in \vee q_m^-)$ -fuzzy subquasigroups*, Quasigroups and Related Systems, **18** (2010), 113-126.

529. **Akram, M.** and Shum, K. P., *Fuzzy Lie ideals over a fuzzy field*, Italian Journal of Pure and Applied Mathematics, **27**(2010), 281-292.
530. Dar, K. H. and **Akram, M.**, *Characterization of K-algebras by self maps II*, Annals of the University of Craiova-Mathematics and Computer Science Series, **37** (1)(2010), 96-103.
531. Meng, B. L. and **Akram, M.**, *On anti fuzzy ideals of BCK-algebras*, The Journal of Fuzzy Mathematics, **18** (4)(2010), 933-942.
532. **Akram, M.**, *Bifuzzy left h-ideals of hemirings with interval-valued membership function*, Mathematica Slovaca, **59** (6)(2009), 719-730. **0.248**
533. **Akram, M.** and Dar, K. H., *Intuitionistic fuzzy topological K-algebras*, Journal of Fuzzy Mathematics, **17** (1)(2009), 19-34.
534. **Akram, M.** and Dar, K. H., *Interval-valued fuzzy structures of K-algebras*, Journal of Fuzzy Mathematics, **17** (4)(2009), 897-916.
535. **Akram, M.** and Shum, K. P., *Vague Lie subalgebras over a vague field*, Quasigroups and Related Systems, **17** (2)(2009), 141-156.
536. **Akram, M.** and Dudek, W. A., *New fuzzy subquasigroups*, Quasigroups and Related Systems, **17** (2)(2009), 107-118.
537. Dar, K. H. and **Akram, M.**, *A BCC-algebra as a subclass of K-algebras*, Annals of the University of Craiova-Mathematics and Computer Science Series, **36** (1)(2009), 12–16.
538. **Akram, M.** and Dudek, W. A., *Intuitionistic fuzzy left k-ideals of semirings*, Soft Computing, **2** (5)(2008), 881-890. **IF=0.984**
539. **Akram, M.**, *$(\in, \in \vee q)$ -fuzzy ideals of K-algebras*, Ars Combinatoria, **89**(2008), 191-204. **IF=0.315**
540. **Akram, M.**, *Fuzzy Lie ideals of Lie algebras with interval-valued membership function*, Quasigroups and Related Systems, **16** (1)(2008), 1-12.
541. **Akram, M.**, *Bifuzzy ideals of K-algebras*, WSEAS Transactions on Mathematics, **7** (5)(2008), 313-322.
542. Shum K. P. and **Akram, M.**, *Intuitionistic (T, S) -fuzzy ideals of nearrings*, Journal of Algebra and Discrete Structures, **6** (1)(2008), 37-52.
543. **Akram, M.**, *Generalized fuzzy Lie subalgebras*, Journal of Generalized Lie Theory and Applications, **2** (4)(2008), 261-268.
544. **Akram, M.** and Dudek W. A., *Generalized fuzzy subquasigroups*, Quasigroups and Related Systems, **16** (2)(2008), 133-146.

545. **Akram, M.**, *Fuzzy subquasigroups with respect to a s -norm*, Buletinul Academiei de Stiinte a Republicii Moldova. Matematica, **57** (2)(2008), 3-13.
546. **Akram, M.**, *Intuitionistic fuzzy Lie ideals of Lie algebras*, Journal of Fuzzy Mathematics, **16** (4)(2008), 991-1008.
547. **Akram, M.** and Shum, K. P., *Fuzzy Quasi-associative ideals in BCI-algebras w.r.t. a t -conorm*, Journal of Fuzzy Mathematics, **16** (4)(2008), 805-820.
548. **Akram, M.**, *Redefined fuzzy Lie algebras*, Quasigroups and Related Systems, **16** (2)(2008), 133-146.
549. **Akram, M.**, Dar, K. H., Meng, B. L. and Shum, K. P., *Interval-valued intuitionistic fuzzy ideals of K -algebras*, WSEAS Transactions on Mathematics, **7** (9)(2008), 559-568.
550. **Akram, M.**, Cheema, T. A. and Taj, M. S. A., *A parallel algorithm for the inhomogeneous advection equation*, International Mathematical Forum, **3** (10)(2008), 463-472.
551. **Akram, M.**, *On T -fuzzy ideals in nearings*, International Journal of Mathematics and Mathematical Sciences, **2007**(2007), Article ID 73514.
552. Dar, K. H., **Akram, M.** and Farooq, A., *A note on a left $K(G)$ -algebra*, Southeast Asian Bulletin of Mathematics, **31**(2007), 231-238.
553. **Akram, M.** and Shum, K. P., *Bifuzzy ideals of nearings*, Algebras, Groups and Geometries, **24**(2007), 389-407.
554. **Akram, M.**, Dar, K. H., Jun, Y. B. and Roh, E. H., *Fuzzy structures of $K(G)$ -algebra*, Southeast Asian Bulletin of Mathematics, **31** (4)(2007), 625-637.
555. **Akram, M.** and Dar, K. H., *Fuzzy ideals of K -algebras*, Annals of the University of Craiova-Mathematics and Computer Science Series, **34**(2007), 3-12.
556. **Akram, M.**, *Intuitionistic (S, T) -fuzzy Lie ideals of Lie algebras*, Quasigroups and Related Systems, **15**(2007), 201-218.
557. **Akram, M.** and Shum, K. P., *Intuitionistic fuzzy Lie algebras*, Southeast Asian Bulletin of Mathematics, **31**(2007), 843-855.
558. **Akram, M.**, *On numerical solution of the parabolic equation with Neumann boundary conditions*, International Mathematical Forum, **2** (9-12)(2007), 551-560.
559. Dar, K. H. and **Akram, M.**, *On K -homomorphisms of K -algebras*, International Mathematical Forum, **2** (46)(2007), 2283-2293.
560. **Akram, M.** and Kim, H. S., *On K -algebras and BCI-algebras*, International Mathematical Forum, **2** (10)(2007), 583-587.

561. **Akram, M.** and Dar, K. H., *On anti fuzzy left h -ideals in hemirings*, International Mathematical Forum, **2** (45-48)(2007), 2295-2304.
562. **Akram, M.** and Dar, K. H., *Fuzzy left h -ideals in hemirings with respect to a s -norm*, International Journal of Computational and Applied Mathematics, **2** (1)(2007), 7-14.
563. **Akram, M.**, *A parallel algorithm for the heat equation with derivative boundary conditions*, International Mathematical Forum, **2** (12)(2007), 565-574.
564. Dar, K. H. Dar and **Akram, M.**, *On subclasses of $K(G)$ -algebras*, Annals of the University of Craiova-Mathematics and Computer Science Series, **33**(2006), 235-240.
565. Dar, K. H. and **Akram, M.**, *On endomorphisms of BCH -algebras*, Annals of the University of Craiova-Mathematics and Computer Science Series, **33**(2006), 227-234.
566. **Akram, M.** and Dar, K. H., *Fuzzy associative I -ideals of IS -algebras with t -norms*, Annals of the University of Craiova-Mathematics and Computer Science Series, **33**(2006), 8-15.
567. **Akram, M.** and Kim, H. S., *On (T) -fuzzy k -ideals/subalgebras of B -algebras*, Journal of Fuzzy Mathematics, **14** (4)(2006), 907-917.
568. **Akram, M.** and Taj, M. S. A., *A parallel algorithm for the parabolic partial differential equation with a known source term*, International Journal of Mathematics and Computer Science, **1** (4)(2006), 443-459.
569. **Akram, M.** and Pasha, M. A., *A numerical scheme for the parabolic equation subject to mass specification*, International Journal of Information and Systems Sciences, **2** (3)(2006), 326-335.
570. **Akram, M.** and Zhan, J., *On sensible fuzzy ideals of BCK -algebras with respect to a t -conorm*, International Journal of Mathematics and Mathematical Sciences, **2007**(2007), Article ID 35930.
571. **Akram, M.**, *On properties of fuzzy associative I -ideals in IS -algebras with t -conorms*, International Mathematical Forum, **1** (25)(2006), 1207-1216.
572. **Akram, M.**, *Intuitionistic fuzzy closed ideals in BCI -algebras*, International Mathematical Forum, **1** (9-12)(2006), 445-453.
573. **Akram, M.** and Shum, K. P., *Intuitionistic fuzzy topological BCC -algebras*, Advances in Fuzzy Mathematics, **1** (1)(2006), 1-13.
574. **Akram, M.**, *Anti fuzzy Lie ideals of Lie algebras*, Quasigroups and Related Systems, **14**(2006), 123-132.
575. Dar, K. H. and **Akram, M.**, *On a K -algebra built on a group*, Southeast Asian Bulletin of Mathematics, **29** (1)(2005), 41-49.

576. **Akram, M.** and Dar, K. H., *T-fuzzy ideals in BCI-algebras*, International J. Mathematics and Mathematical Sciences, **12**(2005), 1899-1907.
577. **Akram, M.** and Dar, K. H., *On fuzzy d-algebras*, Punjab University Journal of Mathematics (Lahore), **37**(2005), 61-76.
578. **Akram, M.**, *A numerical scheme for the diffusion equation with a know source term*, International Journal Applied Mathematics, **17** (3)(2005), 257-269.
579. **Akram, M.**, *A parallel algorithm for the inhomogeneous heat equations*, IISC Journal, **85** (5)(2005), 253-264.
580. **Akram, M.** and Pasha, M. A., *A numerical method for the heat equation with a nonlocal boundary condition*, International Journal of Information and Systems Sciences, **1** (2)(2005), 162-171.
581. **Akram, M.**, *A parallel algorithm for diffusion equation subject to Neumann boundary conditions*, International Journal Pure and Applied Mathematics, **24** (3)(2005), 355-364.
582. Jun, Y. B., **Akram, M.** and Pasha, M. A., *Intuitionistic fuzzy quasi-associative ideals in BCI-algebras*, Southeast Asian Bulletin of Mathematics, **29** (5)(2005), 903-914.
583. Dar, K. H. and **Akram, M.**, *Characterization of a $K(G)$ -algebras by self maps*, Southeast Asian Bulletin of Mathematics, **28** (4)(2004), 601-610.
584. **Akram, M.** and Dar, K. H., *Fuzzy ideals in B-algebras*, Punjab University Journal of Mathematics (Lahore), **36**(2003/2004), 99-108.

C. PUBLICATIONS IN REFEREED INTERNATIONAL CONFERENCES

1. Liu Y. L., Ren M. Y. and **Akram, M.**, *Positive implication R_0 -algebras*, IEEE Xplore Proceedings of the 2009 WRI World Congress on Computer Science and Information Engineering, 31 March - 2 April 2009, Los Angeles, California USA.
2. **Akram, M.** and Dar, K. H., *Interval-valued bifuzzy graphs* Proc. Intern. Confer. on Algebra 2010; Advances in Algebraic Structures, World Sci. Pub. Co., 2011. 1-10.
3. **Akram, M.** and Parvathi. R., *Properties of intuitionistic fuzzy line graphs*, Proc. Intern. Confer. on Intuitionistic Fuzzy Sets ICIFS'2012, Sofia, Bulgaria.
4. M.G. Karunambigai, **Akram, M.**, K. Palanive and S. Sivasankar, *Domination in bipolar fuzzy graphs*, Fuzzy IEEE 2013.

D. Invited Talks/Attended International Conferences

1. International Conference on Recent Advances in Applied Mathematics (COMSATS Institute of Information Technology, Department of Mathematics, Lahore, December 16-17, 2015)

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2. CASPAM International Conference on Mathematics and Applications (Zakariya University Multan, Pakistan, November 6-7, 2017)
3. 1st PU International Conference on Gravitation and Cosmology, Lahore-Pakistan (University of the Punjab, January 27-31, 2019)
4. International Conference on Intelligent Decision Science (Online, Istanbul, Turkey, on August 7-8, 2020).
5. International Conference on Impact of Mathematics in Modern Era (The Islamia University of Bahawalpur, April 08, 2021)
6. INFUS 2021: International Conference on Intelligent and Fuzzy Systems (Online, Istanbul Technical University, August 24-26, 2021)
7. 4th PU International Conference on Gravitation and Cosmology (University of the Punjab, November 22-25, 2021)
8. International Conference on Mathematical Sciences (The Islamia University of Bahawalpur, March 28- 29, 2022)
9. 2nd Garrison International conference on Pure and Applied Mathematics (Lahore Garrison University, June 16-17, 2022)

E. EDITORIAL BOARDS

- + Iranian Journal of Fuzzy Systems (Iran)
- + Journal of Applied Mathematics and Computing (Springer)
- + Journal of Mathematical Analysis (Kosova)
- + Punjab University Journal of Mathematics (Pakistan)

F. REFEREEING AND REVIEWING

Serves as a reviewer/referee for several international journals, including the following:

1. Expert Systems With Applications (Elsevier)
2. Facta Universitatis, Series: Mathematics and Informatics
3. Filomat (Serbia and Montenegro)
4. Future Generation Computer Systems (Elsevier)
5. Fuzzy Sets and Systems (Elsevier)
6. Group Decision and Negotiation (Springer)

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7. IEEE Transactions on Fuzzy Systems
8. IEEE Transactions on Industrial Informatics
9. IEEE Transactions on Automation Science and Engineering
10. Information Processing Letters (Elsevier)
11. Information Fusion (Elsevier)
12. Information Sciences (Elsevier)
13. International Journal of Approximate Reasoning (Elsevier)
14. International Journal of Applied Mathematics & Computer Science (Poland)
15. International Journal of Computer Mathematics (Taylor and Francis)
16. International Journal of Fuzzy Systems (Springer)
17. International Journal of Machine Learning and Cybernetics (Springer)
18. International Journal of Information Technology & Decision Making (World Scientific)
19. International Journal of Uncertainty, Fuzziness and Knowledge-Based Systems (World Scientific)
20. Iranian journal of fuzzy systems (Iran)
21. Journal of Environmental Management (Elsevier)
22. Knowledge-Based Systems (Elsevier)
23. Kragujevac Journal of Mathematics (Serbia)
24. Kuwait Journal of Science
25. Mathematical Reviews (USA)
26. Mathematics and Computers in Simulation (Elsevier)
27. Measurement (Elsevier)
28. Medical & Biological Engineering & Computing (Springer)
29. Neural Computing and Applications (Springer)
30. Zentralblatt MATH (Germany)

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20. Prof. Dr. R. Parvathi (India)
21. Prof. Dr. M. Pal (India)

H. Ph.D Students

1. Ather Ashraf (Title: Spatial Fuzzy Intelligence for Land Suitability Model, 2012–2015)
2. Muhammad Arif Butt (Title: Fuzzy Decision-making Systems for Operating System Kernel, 2013–2019)
3. Miss Shaista Habib (Title: Fuzzy Decision Support Systems for Tunnel Farming in Pakistan, 2013–2019)
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6. Miss Fariha Zafar (Title: Soft Rough Fuzzy Graphs with Applications, 2015–2018)
7. Miss Hafsa Masood Malik (Title: Intuitionistic Fuzzy Rough Graphs With Applications, 2015–2018)
8. Miss Arooj Adeel (Novel Hybrid Models Based on Hesitant Fuzzy Sets, 2016–2019)
9. Mr. Ghous Ali (Decision-Making Methods Based on m-Polar Fuzzy N-Soft Rough Sets, 2016–2019)
10. Miss Neha Waseem (m-Polar Fuzzy Elimination and Choice Translating Reality Methods, 2016–2020)
11. Miss Anam Luqman (Granulation Of Network Models Under Fuzzy Hybrid Information, 2017–2020)
12. Muhammad Saqib (Numerical methods for bipolar fuzzy differential equations, 2017–2020)
13. Miss Gulfam Shahzadi (Hybrid Decision-Making Models Based on q-Rung Orthopair Fuzzy Information, 2017–2021)
14. Miss Muzzamal Sitara (Extensions of graph structures under q -rung picture fuzzy environment, 2017–2021)
15. Miss Shumaiza Dastgeer (Extension of Multi-Criteria Decision Making Methods using q -Rung Orthopair Fuzzy Information, 2018–2022)
16. Miss Saba Saddique (Connectivity of specific fuzzy graphs, 2018–2022)
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20. Mr. Ghulam Muhammad (Analytical solutions of fuzzy linear fractional ordinary differential equations, 2021–2023)
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25. Miss Sadaf Zahid (Mathematical Modeling of Enhanced Deep Learning Approaches for Medical Diagnosis, 2023-2026, In Progress)
26. Miss Hina Gulzar (Hybrid Neural-Fuzzy Frameworks: Significance and Applications, 2023-2026, In Progress)
27. Miss Maria Shabir (A Reliable Feature Selection Framework Based On Multi-Criteria and Consensus, 2023-2027, In Progress)
28. Miss Jawaria Mohsan Dar (2025-2027, In Progress)
29. Miss Deeba Arshad (2025-2027, In Progress)

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5. Miss Rabia Akmal (Title: On m -polar Fuzzy Graphs Structures, Completed))
6. Miss Neha Waseem (Title: Domination in m - polar fuzzy graphs, Completed))
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43. Miss Mehwish (Title: Decision analysis with spherical fuzzy rough number, 2021- 2023)
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47. Maverana Nawaz (Title: Extended Decision-Making Methods with Picture Fuzzy Rough Information, 2022- 2024)
48. Arooj Hashmi (Title: Integrated Decision-Making Methods with Picture Fuzzy Rough Numbers, 2022- 2024)
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51. Nimra Khan (Title: Despeckling noise removal from synthetic aperture radar images using deep learning approaches, 2023- 2025)
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