

Publications

A0. INTERNATIONAL BOOKS

1. Akram, M. and Dar K. H., *Generalized fuzzy K -Algebras*, VDM Verlag, 2010, pp.288 ISBN 978-3-639-27095-2
2. Akram, M., *Bifuzzy K -Algebras*, VDM Verlag, 2010, pp.142 ISBN 978-3-639-28648-9
3. Akram, M., *Computational Methods for Second-Order Parabolic equations*, VDM Verlag, 2010, pp.212 ISBN 978-3-639-2909-12
4. Akram, M. , *Fuzzy Lie Algebras*, Infosys Science Foundation Series in Mathematical Sciences, Springer, 2018.
5. Akram, M., *Single-Valued Neutrosophic Graphs*, Infosys Science Foundation Series in Mathematical Sciences, Springer, 2018.
6. Akram, M., *m -Polar Fuzzy Graphs*, Studies in Fuzziness and Soft Computing, Springer, **371**(2019).
7. Akram, M. and Zafar, F., *Hybrid Soft Computing Models Applied to Graph Theory*, Studies in Fuzziness and Soft Computing, DOI: 10.1007/978-3-030-16020-3, **380**(2020), Springer.
8. Akram, M. and Luqman, A, *Fuzzy Hypergraphs and Related Extensions* , Studies in Fuzziness and Soft Computing, DOI: 10.1007/978-981-15-2403-5, **390**(2020), Springer.
9. 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).
10. Akram, M., Shumaiza and Alcantud, JCR, *Multi-Criteria Decision Making Methods with Bipolar Fuzzy Sets*, Springer, 2022.

A1. INTERNATIONAL BOOK CHAPTERS

1. 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.
2. 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.
3. 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.
4. 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. Springer, Cham. https://doi.org/10.1007/978-3-030-66501-2_73.
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. Naz, S., Akram, M. and Saeed, A., 2022, *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), IGI Global.

B. ARTICLES IN INTERNATIONAL JOURNALS

Year 2022

1. Akram, M, N. Ramzan and F. Feng, *Extending COPRAS Method with Linguistic Fermatean Fuzzy Sets and Hamy Mean Operators*, Journal of Mathematics, (2022), Article ID 8239263, <https://doi.org/10.1155/2022/8239263>.
2. Akram, M, U. Noreen, M. M. A. Al-Shamiri, *Decision analysis approach based on 2-tuple linguistic m -polar fuzzy Hamacher aggregation operators*, Discrete Dynamics in Nature and Society, (2022), Article ID 6269115.
3. Akram, M, Bibi R, Al-Shamiri MA, *A decision-making framework based on 2-tuple linguistic Fermatean fuzzy hamy mean operators*, Mathematical Problems in Engineering, (2022), Article ID 1501880.
4. Akram, M, U. Noreen, M. M. A. Al-Shamiri and D. Pamucar, *Integrated decision-making methods based on 2-tuple linguistic m -polar fuzzy information*, AIMS Mathematics, 7(8)(2022), 14557-14594.

5. Akram, M., Shahzadi, S., Rasool, A. & Sarwar, M., *Decision-making methods based on fuzzy soft competition hypergraphs*, Complex & Intelligent Systems, **8**(3)(2022), 2325-2348.
6. Akram, M., Ullah, I. & Allahviranloo, T., *A new method for the solution of fully fuzzy linear programming models*, Computational and Applied Mathematics, **41**(1)(2022), 1-25.
7. Akram, M., Ali, M. & Allahviranloo, T., *A method for solving bipolar fuzzy complex linear systems with real and complex coefficients*, Soft Computing, **26**(5)(2022), 2157-2178.
8. Adeel, A., Akram, M. & Cagman, N., *Decision-making analysis based on hesitant fuzzy N-Soft ELECTRE-I approach*, Soft Computing, (2022), DOI: <https://doi.org/10.21203/rs.3.rs-672464/v1>.
9. Akram, M., Zahid, K. & Alcantud, JCR., *A new outranking method for multicriteria decision making with complex Pythagorean fuzzy information*, Neural Computing and Applications, **34**(10)(2022), 8069-8102.
10. Akram, M., Ali, G., Alcantud, JCR. & Riaz, A., *Group decision-making with Fermatean fuzzy soft expert knowledge*, Artificial Intelligence Review, (2022), <https://doi.org/10.1007/s10462-021-10119-8>.
11. Akram, M., Amjad, U., Alcantud, JCR and Santos-Garcia, G., *Complex Fermatean fuzzy N-soft sets: A new hybrid model with applications*, Journal of Ambient Intelligence and Humanized Computing, (2022), <https://doi.org/10.1007/s12652-021-03629-4>.
12. Akram, M., Siddique, S. & Alharbi, M.G., *Clustering algorithm with strength of connectedness for m-polar fuzzy network models*, Mathematical Biosciences and Engineering, **19**(1)(2022), 420-455.
13. Akram, M., Ali, G. & Alcantud, J.C.R., *Attributes reduction algorithms for m-polar fuzzy relation decision systems*, International Journal of Approximate Reasoning, **140**(2022), 232-254.
14. 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.
15. Akram, M., Shahzadi, G. and Alcantud, JCR., *Multi-attribute decision-making with q-rung picture fuzzy information*, Granular Computing, **7**(2022), 197-215.
16. Akram, M., Sattar, A. and Saeid, AB., *Competition graphs with complex intuitionistic fuzzy information*, Granular Computing, **7**(2022), 25-47.
17. Liu, P., Naz, S., Akram, M. & 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.

18. Akram, M. & Ahmad, U., *Threshold graphs under picture Dombi fuzzy information*, Granular Computing, **7**(3)(2022), 691-707.
19. Akram, M., Ali, G., Peng, X. & Ul Abidin, M.Z., *Hybrid group decision-making technique under spherical fuzzy N-soft expert sets*, Artificial Intelligence Review, **55**(5)(2022), 4117-4163.
20. Nawaz, H.S., Akram, M. & 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.
21. Akram, M. & M Sitara, M., *Decision-making with q-rung orthopair fuzzy graph structures*, Granular Computing, **7**(7)(2022), 505-526.
22. Akram, M. & Nawaz, H.S., *Inter-specific competition among trees in Pythagorean fuzzy soft environment*, Complex & Intelligent Systems, **8**(2)(2022), 863-884.
23. Akram, M., Ahmad, U. & Karaaslan, F., *Complex Pythagorean fuzzy threshold graphs with application in petroleum replenishment*, Journal of Applied Mathematics and Computing, **68**(3)(2022), 2125-2150.
24. Akram, M, G. Muhiuddin, and Gustavo Santos-Garcia., *An enhanced VIKOR method for multi-criteria group decision-making with complex Fermatean fuzzy sets*, Mathematical Biosciences and Engineering, **19**(7)(2022), 7201-7231.
25. 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.
26. 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, (2022), <https://doi.org/10.1007/s12190-022-01714-1>.
27. 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.
28. 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, (2022), <https://doi.org/10.1007/s00500-022-07060-5>.
29. 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.
30. Akram, M. and Martino, A., *Multi-attribute group decision making based on T-spherical fuzzy soft rough average aggregation operators*, Granular Computing, (2022), <https://doi.org/10.1007/s41022-00319-0>.

31. 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), <https://doi.org/10.1155/2022/4917408>.
32. 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.
33. 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.
34. Nawaz, H.S. and Akram, M., *Granulation of protein-protein interaction networks in Pythagorean fuzzy soft environment*, Journal of Applied Mathematics and Computing, (2022), <https://doi.org/10.1007/s12190-022-01749-4>.
35. Akram, M. and Nawaz, H.S., *Implementation of single-valued neutrosophic soft hypergraphs on human nervous system*, Artificial Intelligence Review, (2022), <https://doi.org/10.1007/s10462-022-10200-w>.
36. 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, (2022), <https://doi.org/10.1007/s41066-022-00330-5>.
37. 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), 1-42.
38. 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.
39. 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.
40. Alcantud, J.C.R., Santos-García, G. and Akram, M., *OWA aggregation operators and multi-agent decisions with N-soft sets*, Expert Systems with Applications, **203**(2022), 117430.

Year 2021

1. Akram, M., Habib, A. & 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.
2. Akram, M., Al-Kenani, A.N., & Shabir, M., *Enhancing ELECTRE I Method with Complex Spherical Fuzzy Information*, International Journal of Computational Intelligence Systems, **14**(1)(2021), 1-31.

3. T.A. Al-Hawary, S.H. Al-Shalalkeh and Akram, M., *Certain matrices and energies of fuzzy graphs*, TWMS Journal of Applied and Engineering Mathematics, **11**(3)(2021), 1-17.
4. Akram, M., Bashir, A. & 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.
5. Akram, M., Wasim, F. & Karaaslan, F., *MCGDM with complex Pythagorean fuzzy-soft model*, Expert Systems, **38**(8)(2021), 12783.
6. Akram, M., Khan, A., Karaaslan, F., *Complex spherical Dombi fuzzy aggregation operators for decision-making*, Journal of Multiple-Valued Logic & Soft Computing, **37**(2021), 503-531.
7. Hameed, S., Akram, M., Mustafa, N. & Samanta, S., *Extension of threshold graphs under complex fuzzy environment*, International Journal of Applied and Computational Mathematics, **7**(5)(2021), 1-19.
8. Akram, M., Shahzadi, G. & 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.
9. Akram, M. & Shahzadi, G., *A hybrid decision-making model under q -rung orthopair fuzzy Yager aggregation operators*, Granular Computing, **6**(4)(2021), 763-777.
10. Akram, M., Wasim, F. & Al-Kenani, A.N., *Complex-Rung Orthopair Fuzzy-Soft Sets: A New Model with Applications*, Complexity, **2021**(2021), DOI: 10.1155/2021/3690597.
11. Siddique, S., Ahmad, U. & Akram, M., *A decision-making analysis with generalized m -polar fuzzy graphs*, Journal of Multiple-Valued Logic & Soft Computing, **37**(2021), 409-436.
12. Ali, G., Akram, M., Shahzadi, S. & UL ABIDIN, M.Z., *Group decision-making framework with bipolar soft expert sets*, Journal of Multiple-Valued Logic & Soft Computing, **37**(2021), 211-246.
13. Hameed, S., Akram, M., Mustafa, N. & Karaaslan, F., *Extension of threshold graphs under complex intuitionistic fuzzy environment*, Journal of Multiple-Valued Logic & Soft Computing, **37**(2021), 295-315.
14. Akram, M., Al-Kenani, A.N. & Luqman, A., *Degree based models of granular computing under fuzzy indiscernibility relations*, Mathematical Biosciences and Engineering, **18**(6)(2021), 8415-8443.
15. Akram, M., Shabir, M., Adeel, A. & Al-Kenani, A.N., *A Multiattribute Decision-Making Framework: VIKOR Method with Complex Spherical Fuzzy-Soft Sets*, Mathematical Problems in Engineering, **2021**(2021).

16. Akram, M., *Spherical fuzzy K-algebras*, Journal of Algebraic Hyperstructures and Logical Algebras, **2**(3)(2021), 85-98.
17. Akram, M., Ullah, I. & Alharbi, M.G., *Methods for solving-type Pythagorean fuzzy linear programming problems with mixed constraints*, Mathematical Problems in Engineering, **2021**(2021).
18. Akram, M., Adeel, A., Al-Kenani, A.N. & 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.
19. Akram, M., Ali, G. & Shabir, M., *A hybrid decision-making framework using rough mF bipolar soft environment*, Granular Computing, **6**(3)(2021), 539-555.
20. Akram, M., Bashir, A., *Complex fuzzy ordered weighted quadratic averaging operators*, Granular Computing, **6**(3)(2021), 523-538.
21. Akram, M., Bashir, S. & 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.
22. Akram, M., Ali, G. & Alcantud, J.C.R., *Parameter reduction analysis under interval-valued m-polar fuzzy soft information*, Artificial Intelligence Review, **54**(2021), 5541-5582.
23. Akram, M., Kahraman, C. & Zahid, K., *Extension of TOPSIS model to the decision-making under complex spherical fuzzy information*, Soft Computing, **25**(2021), 10771-10795.
24. Mehmood, M. A., Akram, M, M. G. Alharbi and S. Bashir, *Optimization of LR-type fully bipolar fuzzy linear programming problems*, Mathematical Problems in Engineering, **2021**(2021), Article ID 1199336.
25. Akram, M., Amjad, U. & Davvaz, B., *Decision-making analysis based on bipolar fuzzy N-soft information*, Comp. Appl. Math., **40**(2021), 182.
26. Akram, M., Ullah, I., Allahviranloo, T. and Edalatpanah, SA., *Fully Pythagorean fuzzy linear programming problems with equality constraints*, Computational and Applied Mathematics, **40**(4)(2021), 1-30.
27. Akram, M. and Shumaiza, D., *Multi-criteria decision making based on q-rung orthopair fuzzy PROMETHEE approach*, Iranian Journal of Fuzzy Systems, **18**(5)(2021), 107-127.
28. Saqib, M., Akram, M, Bashir, S. et al., *A Runge-Kutta numerical method to approximate the solution of bipolar fuzzy initial value problems*, Computational and Applied Mathematics, **40**(151)(2021), 1-43.
29. Akram, M., S. Alsulami and K. Zahid, *A hybrid method for complex Pythagorean fuzzy decision making*, Mathematical Problems in Engineering, **2021**, DOI: 10.1155/2021/9915432.

30. Luqman, A., Akram, M. and Alcantud JCR., *Digraph and matrix approach for risk evaluations under Pythagorean fuzzy information*, Expert Systems with Applications, **170**(2021), 114518.
31. 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.
32. 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.
33. Akram, M., Naz, S. and Ziaa, F., *Novel decision making framework based on complex q-rung orthopair fuzzy information*, Scientia Iranica, (2021), DOI: 10.24200/SCI.2021.55413.4209.
34. 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.
35. 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.
36. Mehmood, MA., Akram, M., Alharbi, MG. and Bashir, S., *solution of fully bipolar fuzzy linear programming models*, Mathematical Problems in Engineering, **2021**(2021) , DOI: 10.1155/2021/9961891.
37. Akram, M., Naz, S., Edalatpanah, SA. and Mehreen, R., *Group decision-making framework under linguistic q-rung orthopair fuzzy Einstein models*, Soft Computing, **25**(2021), 10309-10334.
38. Akram, M., Ilyas, F. and Garg, H., *ELECTRE-II method for group decision-making in Pythagorean fuzzy environment*, Applied Intelligence, **51**(2021), 8701-8719.
39. Akram, M., Wasim, F. and Al-Kenani, AN., *A hybrid decision-making approach under complex Pythagorean fuzzy N-soft sets*, International Journal of Computational Intelligence Systems, **14**(1)(2021), 1263-1291.
40. Akram, M., Ilyas, F. and Al-Kenani, AN., *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.
41. 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.
42. Akram, M., Ali, G., Butt, MA. and Alcantud, JCR., *Novel MCGDM analysis under m-polar fuzzy soft expert sets*, Neural Computing and Applications, **33**(2021), 12051-12071.
43. Akram, M., Shabir, M., Al-Kenani, AN. and Alcantud, JCR., *Hybrid decision-making frameworks under complex spherical fuzzy-soft sets*, Journal of Mathematics, **3**(2021), 1-46.

44. Akram, M., Kahraman, C. and Zahid, K., *Group decision-making based on complex spherical fuzzy VIKOR approach*, Knowledge-Based Systems, **216**(2021), 106793.
45. Sarwar, M., Akram, M., Shahzadi, S., *Bipolar fuzzy soft information applied to hypergraphs*, Soft Computing, **25**(5)(2021), 3417-3439.
46. Ma, X., Akram, M., Zahid, K. and Alcantud, JCR., *Group decision-making framework using complex Pythagorean fuzzy information*, Neural Computing and Applications, **33**(6)(2021), 2085-2105.
47. Nawaz, HS. 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.
48. Akram, M., Sattar, A., Karaaslan, F. and Samanta, S., *Extension of competition graphs under complex fuzzy environment*, Complex & Intelligent Systems, **7**(1)(2021), 539-558.
49. 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.
50. 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.
51. 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.
52. Akram, M., Khan, A., Alcantud, JCR. and Santos-Garcia, G., *A hybrid decision-making framework under complex spherical fuzzy prioritized weighted aggregation operators*, Expert Systems, **38**(6)(2021), 12712.
53. Akram, M., Shahzadi, G., Butt, MA. and Karaaslan, F., *A hybrid decision making method based on q-rung orthopair fuzzy soft information*, Journal of Intelligent & Fuzzy Systems, **40**(2021), 9815-9830.
54. Akram, M., Allahviranloo, T., Pedrycz, W. and Ali, M., *Methods for solving LR-bipolar fuzzy linear systems*, Soft Computing, **25**(1)(2021), 85-108.
55. Akram, M., Ali, G., Alcantud, JCR. and Fatimah, F., *Parameter reductions in N-soft sets and their applications in decision-making*, Expert Systems, **38**(1)(2021), 12601.
56. Akram, M. et al., *q-Rung orthopair fuzzy graphs under Hamacher operators*, Journal of Intelligent and Fuzzy Systems, **40**(1)(2021), 1367-1390.
57. Shahzadi, G. and Akram, M., *Group decision-making for the selection of an antivirus mask under fermatean fuzzy soft information*, Journal of Intelligent & Fuzzy Systems, **40**(1)(2021), 1401-1416.

58. 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.
59. 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.
60. 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.
61. Akram, M. and Shumaiza, *Multi-criteria decision-making methods based on q -rung picture fuzzy information*, Journal of Intelligent & Fuzzy Systems, **40**(5)(2021), 10017-10042.
62. Akram, M. and Shahzadi, G., *Decision-making approach based on Pythagorean Dombi fuzzy soft graphs*, Granular Computing, **6**(2021), 671-689.
63. 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.
64. Akram, M., Shahzadi, G., *A hybrid decision-making model under q -rung orthopair fuzzy Yager aggregation operators*, Granular Computing, **6**(2021), 763-777.
65. Akram, M. and Khan, A. , *Complex Pythagorean Dombi fuzzy graphs for decision making*, Granular Computing, **6**(2021), 645-669.
66. 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.

Year 2020

1. Akram, M., Shahzadi, G. and A.A. H. Ahmadini, *Decision-making framework for an effective sanitizer to reduce COVID-19 under Fermatean fuzzy environment*, Journal of Mathematics, **2020**(2020), DOI: 10.1155/2020/3263407.
2. Shahzadi, S., Sawrar, M. and Akram, M., *Decision-making approach with fuzzy type-2 soft graphs*, Journal of Mathematics **2020**(2020), <https://doi.org/10.1155/2020/8872446>.
3. 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.
4. 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.

5. Ali N.A.Koam, Akram, M., Muhammad, G. and Hussain, N., *LU decomposition scheme for solving m -polar fuzzy system of linear equations*, Mathematical Problems in Engineering, Article ID 8384593, **2020** (2020), 19 pages.
6. Ali, N.A. Koam, Akram, M. and Liu, P., *Decision-making analysis based on fuzzy graph structures*, Mathematical Problems in Engineering Volume 2020, Article ID 6846257, 30 pages.
7. 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.
8. Akram, M. and Luqman, A., *Granulation of ecological networks under fuzzy soft environment*, Soft Computing, **24**(2020), 11867-11892.
9. 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,.
10. 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.
11. 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.
12. Akram, M., Ali, M. and Allahviranloo, T., *Certain methods to solve bipolar fuzzy linear system of equations*, Computational and Applied Mathematics, **39**(2020), 213.
13. Saqib, M., Akram, M. and Shahida, B., *Certain efficient iterative methods for bipolar fuzzy system of linear equations*, Journal of Intelligent & Fuzzy Systems, **39**(3)(2020), 3971-3985.
14. Akram, M., Yaqoob, N., Ali, G., Chammam, W., *Extensions of Dombi Aggregation Operators for decision-making under m -Polar Fuzzy Information*, Journal of Mathematics, **2020**(2020), Article No. 4739567.
15. 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.
16. 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**, Article ID 7279027, 16 pages.
17. 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.

18. Akram, M., Khan, A. and Saeid, A.B., *Complex Pythagorean Dombi fuzzy operators using aggregation operators and their decision-making*, Expert Systems, (2020), <https://doi.org/10.1111/exsy.12626>.
19. 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.
20. 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.
21. Akram, M., J.M. Dar and S. Naz, *Pythagorean Dombi Fuzzy Graphs*, Complex & Intelligent Systems, **6**(2020), 29–54.
22. Akram, M and Adeel, A., *Novel hybrid decision-making methods based on mF rough information*, Granular Computing, **5**(2020), 185–201.
23. Arooj A., Akram, M., N. Yaqoob and W. Chammam, *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.
24. Akram, M., Garg, H. and K. Zahid, *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.
25. Akram, M., Bashir, A. and Samanta, S., *Complex Pythagorean fuzzy planar graphs*, Int. Journal of Applied and Computational Mathematics, **6**, 58 (2020). <https://doi.org/10.1007/s40819-020-00817-2>.
26. Akram, M., W.A. Dudek, A. Habib and Al-Kenani, Ahmad N., *Imperfect competition models in economic market structure with q -rung picture fuzzy information*, Journal of Intelligent & Fuzzy Systems, **38**(4)(2020), 5107-5126.
27. Akram, M. and K. P. Shum, *A Survey on Single-Valued Neutrosophic K -Algebras*, Journal of Mathematical Research with Applications, **40**(3)(2020), DOI:10.3770/j.issn:2095-2651.2020.03.000.
28. Akram, M., Shumaiza, Alcantud, J.C.R. , *An m -Polar Fuzzy PROMETHEE Approach for AHP-Assisted Group Decision-Making*, Mathematical and Computational Applications, **25**(2)(2020), 26.
29. Asif, M., Akram, M. and Ali, G., *Pythagorean Fuzzy Matroids with Application*, Symmetry. **12**(2020), 423.
30. Akram, M. and A. Sattar, *Competition graphs under complex Pythagorean fuzzy information*, Journal of Applied Mathematics and Computing, **63**(2020), 543-583.

31. Akram, M., Sitara, M. and A.B. Saeid, *Residue Product of Fuzzy Graph Structures*, Journal of Multiple-Valued Logic and Soft Computing, **34**(3-4)(2020), 365-399.
32. Shahzadi, G., Akram, M. and B. Davvaz, *Pythagorean Fuzzy Soft Graphs with Applications*, Journal of Intelligent & Fuzzy Systems, **38**(4), 4977-4991.
33. B. Sheikh Hoseini, Akram, M., M. Sheikh Hosseini, R. Rashmanlou and R.A. Borzooei, *Maximal Product of Graphs under Vague Environment*, Mathematical and Computational Applications, **25**(1)(2020), 10.
34. Akram, M., D. Saleem and T. Al-Hawary, *Spherical Fuzzy Graphs with Application to Decision-Making*, Mathematical and Computational Applications, **25**(1)(2020), 8.
35. Sarwar, M., Akram, M and M. Ali, *Double dominating energy of m -Polar fuzzy graphs*, Journal of Intelligent & Fuzzy Systems, **38**(2)(2020), 1997-2008.
36. Akram, M, F. Ilyasa and H. Garg, *Multi-Criteria Group Decision Making Based on ELECTRE I Method in Pythagorean Fuzzy Information*, Soft Computing, **24**(5)(2020), 3425-3453.
37. Akram, M, G. Shahzadi and K.P. Shum, *Operations on m -polar fuzzy r -uniform hypergraphs*, Southeast Asian Bulletin of Mathematics, **44**(2020), 1–16.
38. 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.
39. Shahzadi, G., Akram, M. and A. N. Al-Kenani, *Decision Making Approach under Pythagorean Fuzzy Yager Weighted Operators*, Mathematics, **8**(1)(2020), 70.
40. Akram, M., Shumaiza and A. N. Al-Kenani, *Multi-criteria group decision-making for selection of green suppliers under bipolar fuzzy PROMETHEE process*, Symmetry, **12**(1)(2020), 77.
41. Akram, M., Shumaiza and M. Arshad, *Bipolar fuzzy TOPSIS and bipolar fuzzy ELECTRE-I methods to diagnosis*, Computational and Applied Mathematics, **39**(2020), 1-21.
42. Akram, M, Ali, G., *Hybrid models for decision-making based on rough Pythagorean fuzzy bipolar soft information*, Granular Computing, **5**(2020), 1-15.

Year 2019

1. Akram, M., D. Saleem and T. Allahviranloo, *Linear system of equations in m -polar fuzzy environment*, Journal of Intelligent & Fuzzy Systems, **37**(6)(2019), 8251-8266.
2. Akram, M.; Mohsan Dar, J.; Shahzadi, S., *Decision Making Approach under Pythagorean Dombi Fuzzy Graphs for Selection of Leading Textile Industry*, Mathematical and Computational Applications, **24**(4)(2019), 102.

3. Waseem , N.; Akram, M.; Alcantud , J.C.R., *Multi-Attribute Decision-Making Based on m-Polar Fuzzy Hamacher Aggregation Operators*. Symmetry, **11**(12)(2019), 1498.
4. Shahzadi, G. and Akram, M., *Hypergraphs Based on Pythagorean Fuzzy Soft Model*, Mathematical and Computational Applications, **24**(4)(2019), 100.
5. Akram, M., G. Muhammad and N. Hussian, *Bipolar fuzzy system of linear equations with polynomial parametric form*, Journal of Intelligent & Fuzzy Systems, **37**(6), 8275-8287.
6. Luqman, A.; Akram, M. and F. Smarandache, *Complex Neutrosophic Hypergraphs: New Social Network Models*, Algorithms, **12**(11)(2019), 234.
7. Luqman, A.; Akram, M.; Al-Kenani, A.N.; Alcantud, J.C.R., *A Study on Hypergraph Representations of Complex Fuzzy Information*, Symmetry, **11**(11)(2019), 1381.
8. Shumaiza, Akram, M., Ahmad N. Al-Kenani, Alcantud, J.C.R., *Group Decision-Making Based on the VIKOR Method with Trapezoidal Bipolar Fuzzy Information*, Symmetry, **11**(10)(2019), 1313.
9. Shumaiza, Akram, M. and Ahmad N. Al-Kenani, *Multiple-Attribute Decision Making ELECTRE II Method under Bipolar Fuzzy Model*, Algorithms, **12**(11)(2019), 226.
10. 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.
11. Akram, M., Habib, A. and B. Davvaz, *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.
12. 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.
13. Akram, M., W.A. Dudek and J.M. Dar, *Pythagorean Dombi Fuzzy Aggregation Operators with Application in Multi-criteria Decision-making*, Int. J. Intelligent Systems **34** (2019), 3000-3019.
14. Akram, M., Naz, S.; Smarandache, F., *Generalization of Maximizing Deviation and TOPSIS Method for MADM in Simplified Neutrosophic Hesitant Fuzzy Environment*. Symmetry, **11**(8)(2019), 1058.
15. Akram, M., Muhammad, G.; Koam, A.N.A.; Hussain, N., *Iterative Methods for Solving a System of Linear Equations in a Bipolar Fuzzy Environment*. Mathematics, **7**(8)(2019), 728.
16. Ali, G.; Akram, M., Koam, A.N.A.; Alcantud, J.C.R., *Parameter Reductions of Bipolar Fuzzy Soft Sets with Their Decision-Making Algorithms*, Symmetry, **11**(8)(2019), 949.

17. Akram, M., Naz, S., A Novel Decision-Making Approach under Complex Pythagorean Fuzzy Environment. *Math. Comput. Appl.*, **24**(3)(2019), 73.
18. 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.
19. Akram, M, H. Gulzar. K. P. Shum, *Certain notions of single-valued neutrosophic K -algebras*, *Italian Journal of Pure and Applied Mathematics*, **42**(2019)271-289.
20. 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.
21. Akram, M and Maham A., *Ranking of trapezoidal bipolar fuzzy information system based on total ordering*, *Applied Mathematics E-Notes*, **19**(2019), 292-309.
22. 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.
23. Luqman, A., Akram, M and Koam, A.N.A., *Granulation of Hypernetwork Models under the q -Rung Picture Fuzzy Environment*, *Mathematics*, **7**(6), 496.
24. 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.
25. Zhan, J., Akram, M and Sitara, M., *Novel decision-making method based on bipolar neutrosophic information*, *Soft Computing*, **23**(20)(2019), 9955-9977.
26. Akram, M, J. M. Dar and S. Naz, *Certain Graphs under Pythagorean Fuzzy Environment*, *Complex & Intelligent Systems*, **5**(2)(2019), 127-144.
27. Akram, M., S. Naz, and B. Davvaz, *Simplified Interval-Valued Pythagorean Fuzzy Graphs with Application*, *Complex & Intelligent Systems*, **5**(2)(2019), 229-253.
28. Akram, M., F. Ilyas and A.B. Saeid, *Certain Notions of Pythagorean Fuzzy Graphs*, *Journal of Intelligent and Fuzzy Systems*, **36**(6)(2019), 5857-5874.
29. 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.
30. Adeel, A., Akram, M and A.N.A. Koam, *Multi-Criteria Decision-Making under mHF ELECTRE-I and HmF ELECTRE-I*, *Energies*, **12**(9)(2019), 1661,
31. Akram, M, N. Waseem, *Similarity Measures for New Hybrid Models: mF Sets and mF Soft Sets*, *Punjab University Journal of Mathematics*, **51**(6)(2019), 115-130.
32. 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.

33. Akram, M, W.A. Dudek and F.Ilyas, *Group decision making based on Pythagorean fuzzy TOPSIS method*, Int. J. Intelligent System, **34**(2019), 1455-1475.
34. Akram, M, Gulzar, H. and Smarandache, F., *Neutrosophic Soft Topological K -Algebras*, Neutrosophic Sets and Systems, **25**(2019), 104-124.
35. Luqman, A., Akram, M; Ahmad N. Al-Kenani, *q -Rung Orthopair Fuzzy Hypergraphs with Applications*, Mathematics 2019, 7(3), 260.
36. Luqman, A., Akram, M; Koam, A.N, *An m -Polar Fuzzy Hypergraph Model of Granular Computing*, Symmetry 2019, 11(4), 483.
37. Akram, M, Habib , A.; Koam , A.N., *A Novel Description on Edge-Regular q -Rung Picture Fuzzy Graphs with Application*, Symmetry 2019, 11(4), 489.
38. Adeel, A., Akram, M, Ahmed, I.; Nazar, K, *Novel m -Polar Fuzzy Linguistic ELECTRE-I Method for Group Decision-Making*, Symmetry 2019, 11(4), 471.
39. Akram, M., G. Muhammad and T. Allahviranloo, *Bipolar fuzzy linear system of equations*, Computational and Applied Mathematics, **38**(2019), 69.
40. Akram, M, Adeel, A. and J. C. R. Alcantud, *Hesitant Fuzzy N -Soft Sets: A New Model with Applications in Decision-Making*, Journal of Intelligent & Fuzzy Systems, **36**(6)(2019), 6113-6127.
41. 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.
42. Akram, M., D. Saleem and B. Davvaz, *Energy of Double Dominating Bipolar Fuzzy Graphs*, Journal of Applied Mathematics and Computing, **61**(1-2)(2019), 219-234.
43. J. Zhan, Hafsa Masood 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.
44. Akram, M. and Sitara, M., *Certain fuzzy graph structures*, Journal of Applied Mathematics and Computing, **61**(1-2)(2019), 25-56.
45. Sitara, M.; Akram, M, M.; Y. Bhatti, *Fuzzy Graph Structures with Application*, Mathematics, **7**(1)(2019), 63.
46. Habib, A., Akram, M, M.; Farooq, *q -Rung orthopair fuzzy competition graphs with application in the soil ecosystem*, Mathematics, **7**(1)(2019), 91.
47. A. Rehman, M. Hussain, A. Farooq and Akram, M, *Consensus Based Multi-person Decision Making with Incomplete Fuzzy Preference Relations Using Product Transitivity*, Mathematics, , **7**(2)(2019), 185.

48. Akram, M, H. Gulzar. K. P. Shum, *Single-Valued Neutrosophic Lie Algebras*, Journal of Mathematical Research with Applications, **39**(2)(2019), 141-152.
49. Akram, M, N. Waseem and P. Liu, *Novel Approach in Decision Making with m -Polar Fuzzy ELECTRE-I*, International Journal of Fuzzy Systems, **21**(4)(2019), 1117-1129.
50. Akram, M and Maham A., *A Novel Trapezoidal Bipolar Fuzzy TOPSIS Method for Group Decision-Making*, Group Decision and Negotiation, **28**(3)(2019), 565-584.
51. S. Naz and Akram, M, *Novel decision making approach based on hesitant fuzzy sets and graph theory*, Computational and Applied Mathematics, **38**(7)(2019), 1-26.
52. S. Habib, and M. Akram, *Medical decision support systems based on fuzzy cognitive maps*, International Journal of Biomathematics, 12(6)(2019), 34 pages.
53. Akram, M, Adeel, A. and J. C. R. Alcantud, *Group Decision-Making Methods Based on Hesitant N -Soft Sets*, Expert Systems with Applications, **115**(2019), 95–105.

Year 2018

1. Akram, M and Musavarah Sarwar, *Novel applications of m -polar fuzzy competition graphs in decision support system*, Neural Computing and Applications, **30**(10)(2018), 3145-3165.
2. N. Yaqoob and Akram, M, *Complex neutrosophic graphs*, Bull. Comput. Appl. Math., **6**(2)(2018), 85-109.
3. K. M. Alsager, N.O. Alshehri and Akram, M, *A Decision-Making Approach Based on Multi Q -Hesitant Fuzzy Soft Multi-Granulation Rough Model*, Symmetry, **10**(12)(2018), 711.
4. S. Rashid, N. Yaqoob, Akram, M, M. Gulistan, *Cubic graphs with application*, International Journal of Analysis and Applications, **16**(5)(2018), 733-750.
5. Sarwar, M., Akram, M, Zafar, F., *Decision making approach based on competition graphs and extended TOPSIS method under bipolar fuzzy environment*, Math. Comput. Appl., **23**(4)(2018), 68.
6. Akram, M, Dar, J.M.; Farooq, A., *Planar graphs under Pythagorean fuzzy environment*, Mathematics, **6**(12)(2018), 278.
7. Akram, M, Gulzar, H., Smarandache, F. and Broumi, S., *Certain notions of neutrosophic topological K -algebras*, Mathematics, **6**(11)(2018), 234.
8. Akram, M, Gulzar, H., Smarandache, F. and Broumi, S., *Application of neutrosophic soft sets to K -Algebras*, Axioms **7**(4)(2018), 83.
9. M. Sarwara, Akram, M and N. O. Alshehri, *A new method to decision-making with fuzzy competition hypergraphs*, Symmetry, **10**(9)(2018), 404.

10. Shaista, H. and Akram, M, *Diagnostic Methods and Risk Analysis Based on Fuzzy Soft Information*, International Journal of Biomathematics, **11**(8)(2018), <https://doi.org/10.1142/S1793524518500961>.
11. Akram, M, Maham A. and Shumaiza, *Fuzzy rough graph theory with applications*, International Journal of Computational Intelligence Systems, **12**(2018), 1875-6883.
12. Akram, M, Adeel, A. and J. C. R. Alcantud, *Fuzzy N-soft sets: A novel model with applications*, Journal of Intelligent & Fuzzy Systems, **35**(4)(2018), 4757-4771.
13. Akram, M and Maryam Nasir, *Novel applications of bipolar neutrosophic competition graphs*, Applied Mathematics-A Journal of Chinese Universities, **33**(4)(2018), 436-467.
14. Akram, M, *Level graphs of intuitionistic fuzzy graphs*, Annals of Fuzzy Mathematics and Informatics, **16**(1)(2018), 55-70.
15. Akram, M, Habib, A., Ilyas, F., Mohsan Dar, J., *Specific Types of Pythagorean Fuzzy Graphs and Application to Decision-Making*, Math. Comput. Appl. 2018, 23(3), 42.
16. Akram, M, Ali, G., Waseem, N., Davvaz, B., *Decision-making methods based on hybrid mF models*, Journal of Intelligent & Fuzzy Systems, **35**(3)(2018), 3387-3403.
17. Akram, M, Naz, S., *Energy of Pythagorean Fuzzy Graphs with Applications*, Mathematics, **6**(8)(2018), 136; <https://doi.org/10.3390/math6080136>.
18. Alghamdi, M.A., Alshehri, N.O., Akram, M, *Multi-criteria decision-making methods in bipolar fuzzy environment*, International Journal of Fuzzy Systems, **20**(6)(2018), 2057-2064.
19. Akram, M, Ishfaq, N.; Sayed, S.; Smarandache, F., *Decision-Making Approach Based on Neutrosophic Rough Information*, Algorithms 2018, 11(5), 59.
20. Naz, S.; Ashraf, S., Akram, M, *A Novel Approach to Decision-Making with Pythagorean Fuzzy Information*, Mathematics 2018, 6(6), 95.
21. 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.
22. Naz, S., Akram, M and Smarandache, F., *Certain Notions of Energy in Single-Valued Neutrosophic Graphs*, Axioms 2018, 7(3), 50.
23. Masood Malik, H., Akram, M and Smarandache, F., *Soft Rough Neutrosophic Influence Graphs with Application*, Mathematics 2018, 6(7), 125.
24. Akram, M, Sayed, S. and Smarandache, F., *Neutrosophic Incidence Graphs With Application*, Axioms 2018, 7(3), 47.

25. Akram, M, Sarwar, M., 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.
26. 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.
27. Akram, M and Saba Siddique, *Certain single-valued neutrosophic graphs*, The Journal of Fuzzy Mathematics, **26**(3)(2018), 593-614.
28. Akram, M, Saba Siddique and K. P. Shum, *Certain properties of bipolar neutrosophic graphs*, Southeast Asian Bulletin of Mathematics, **42**(4)(2018), 463-490.
29. Akram, M, F. Feng, A. Borumand Saeid, Violeta Fotea, *A new multiple criteria decision-making method based on bipolar fuzzy soft graphs*, Iranian journal of fuzzy systems, **15**(4)(2018), 73-92.
30. Akram, M, Shumaiza, and Smarandache, F., *Decision-making with bipolar neutrosophic TOPSIS and bipolar neutrosophic ELECTRE-I*, Axioms 2018, 7, 33.
31. Hafsa Masood 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.
32. Akram, M and Anam Luqman, *A new decision-making method based on bipolar neutrosophic directed hypergraphs*, Journal of Applied Mathematics and Computing, **57**(2018), 547-575.
33. Akram, M, Saba Siddique and B. Davvaz, *New Concepts in neutrosophic graphs with application*, Journal of Applied Mathematics and Computing, **57**(12)(2018), 279-302.
34. Akram, M and Sundas Shahzadi, *Novel intuitionistic fuzzy soft multiple-attribute decision-making methods*, Neural Computing and Applications, **29**(7)(2018), 435-447.
35. Akram, M and M. Sarwar, *New applications of m-polar fuzzy competition graphs*, New Mathematics and Natural Computation, **14**(2)(2018), 249-276.
36. Akram, M, Sundas Shahzadi and A.Borumand Saeid, *Single-valued neutrosophic hypergraphs*, TWMS Journal of Applied and Engineering Mathematics, **8**(1)(2018), 122-135.
37. Musavarah Sarwar and Akram, M, *Bipolar fuzzy circuits with applications*, Journal of Intelligent and Fuzzy Systems, **34**(1)(2018), 547-558.
38. Fariha Zafar and Akram, M, *A novel decision making method based on rough fuzzy information*, International Journal of Fuzzy Systems, **20**(3)(2018), 1000-1014.
39. Akram, M and M. Sitara, *Interval-valued neutrosophic graph structures*, Punjab University Journal of Mathematics, **50**(1)(2018), 35-58.

40. Akram, M, and Maryam Nasir, *Certain bipolar neutrosophic competition graphs*, Journal of the Indonesian Mathematical Society, **24**(1)(2018), 1-25.
41. Akram, M and M. Sitara, *Novel applications of single-valued neutrosophic graph structures in decision-making*, Journal of Applied Mathematics and Computing, **56**(1-2)(2018), 501–532.
42. Akram, M and Neha Waseem, *Novel applications of bipolar fuzzy graphs to decision making problems*, Journal of Applied Mathematics and Computing, **56**(1-2)(2018), 73-91.
43. Shahzadi, S. and Akram, M, *Graphs in an intuitionistic fuzzy soft environment*, Axioms, 2018, **7**(2), 20; doi:10.3390/axioms7020020.
44. Akram, M, Shahzadi, S. and Smarandache, F., *Multi-attribute decision-making method based on neutrosophic soft rough information*, Axioms, 2018, **7**(1), 19; doi:10.3390/axioms7010019.
45. Sarwar, M.; Akram, M, *Certain algorithms for modeling uncertain data using fuzzy tensor product Bezier surfaces*, Mathematics, 2018, **6**(3), 42; doi:10.3390/math6030042.
46. Akram, M; Malik, H.M.; Shahzadi, S.; Smarandache, F., *Neutrosophic soft rough graphs with application*, Axioms, 2018, **7**(1), 14; doi:10.3390/axioms7010014.
47. Akram, M; Shahzadi, G., *Hypergraphs in m -polar fuzzy environment*, Mathematics, 2018, **6**(2), 28; doi:10.3390/math6020028.
48. Ishfaq, N.; Sayed, S.; Akram, M; Smarandache, F., *Notions of rough neutrosophic digraphs*, Mathematics, 2018, **6**(2), 18; doi:10.3390/math6020018.
49. Sayed, S.; Ishfaq, N.; Akram, M; Smarandache, F., *Rough neutrosophic digraphs with application*, Axioms, 2018, **7**(1), 5; doi:10.3390/axioms7010005.

Year 2017

1. Sarwar, M. and Akram, M., *New applications of m -polar fuzzy matroids*, Symmetry, 2017, **9**(12), 319; doi:10.3390/sym9120319.
2. Sundas Shahzadi and Akram, M, *Intuitionistic fuzzy soft graphs with applications*, Journal of Applied Mathematics and Computing, **55**(1-2), 369-392.
3. Akram, M and A. Adeel, *m - polar fuzzy graphs and m -polar fuzzy line graphs*, Journal of Discrete Mathematical Sciences & Cryptography, **20**(8)(2017), 1597-1617.
4. Akram, M and M. Sitara, *Single-valued neutrosophic graph structures*, Applied Mathematics E-Notes, **17**(2017), 277-296.
5. Akram, M and M. Sitara, *Certain Concepts in intuitionistic neutrosophic graph structures*, Information, 2017, **8**(4), 154; doi:10.3390/info8040154.

6. Akram, M, G. Ali and N. O. Alshehri, *A new multi-attribute decision-making method based on m -polar fuzzy soft rough sets*, Symmetry, **9**(11)(2017), 271; doi:10.3390/sym9110271.
7. Akram, M and Maryam Nasir, *Certain competition graphs based on intuitionistic neutrosophic environment*, Information, 2017, **8**(4), 132; doi:10.3390/info8040132.
8. M. Sarwar and Akram, M, *New applications of m -polar fuzzy matroids*, Symmetry, **9**(319), 2017, pp.1-16.
9. Akram, M, M. Sitara and F. Smarandache, *Graph structures in bipolar neutrosophic environment*, Mathematics, 2017, **5**(4), 60; doi:10.3390/math5040060.
10. Akram, M and N. Waseem, *Novel decision making method based on domination in m -polar fuzzy graphs*, Comm. Korean Math. Society, **32**(4)(2017), 1077-1097.
11. Akram, M and Shum, K. P., *Bipolar neutrosophic planar graphs*, Journal of Mathematical Research with Applications, **36**(6) 2017, 631-648.
12. M. Sarwar 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.
13. Musavarah Sarwar and Akram, M, *Novel applications of m -polar fuzzy concept lattice*, New Mathematics and Natural Computation, **13**(3)(2017) 196-222.
14. Akram, M, N. Waseem and B. Davvaz, *Certain types of domination in m -polar fuzzy graphs*, Journal of Multivalued Logic and Soft Computing, **29** (5)(2017), 619-646.
15. Akram, M and Anam Luqman, *Intuitionistic single-valued neutrosophic hypergraphs*, OPSEARCH, **54**(4)(2017), 799-815.
16. Akram, M and Saba Siddique, *Neutrosophic competition graphs with applications*, Journal of intelligent and fuzzy systems, **33**(2)(2017), 921-935.
17. Akram, M, Anam Luqman, *Bipolar neutrosophic hypergraphs with applications*, Journal of intelligent and fuzzy systems, **33**(3)(2017), 1699-1713.
18. Akram, M and Maryam Nasir, *Interval-valued neutrosophic competition graphs*, Annals of Fuzzy Mathematics and Informatics, **14**(1)(2017), 99-120.
19. Akram, M and Musavarah Sarwar, *Representation of graphs using m -polar fuzzy environment*, Italian journal of pure and applied mathematics, **38**(2017), 291-312.
20. Akram, M and M. Sarwar, *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.
21. Akram, M and M. Sitara, *Application of intuitionistic neutrosophic graph structures in decision-making*, Annals of Fuzzy Mathematics and Informatics, **14**(1)(2017), 1-27.

22. Akram, M and M. Sarwar, *Transversals of m -polar fuzzy hypergraphs with applications*, Journal of Intelligent and Fuzzy Systems, **33**(1)(2017), 351-364.
23. M.G.Karunambigai, Akram, M, S.Sivasankar and K.Palanivel, *Clustering algorithm for intuitionistic fuzzy graphs*, International Journal of Uncertainty, Fuzziness and Knowledge-Based Systems, **25**(3)(2017) 367-383.
24. Akram, M and M. Tahir, *Fuzzy soft lines graphs*, The Journal of Fuzzy Mathematics, **25**(2), 403-422, 2017.
25. Akram, M , and Samanta, S and Pal, M. *Cayley vague graphs*, The Journal of Fuzzy Mathematics, **25**(2), 449-462, 2017.
26. Akram, M and M. Sitara, *Representation of Graph Structure Based on I-V Neutrosophic Sets*, International Journal of Algebra and Statistics, **6**(1-2), 56-80, 2017.
27. G. Shahzadi, Akram, M, A. B. Saeid, *An application of single-valued neutrosophic sets in medical diagnosis*, Neutrosophic Sets and Systems, **18**(2017), 80-88.
28. Akram, M and G. Shahzadi, *Certain characterization of m -polar fuzzy graphs by level graphs*, Punjab University Journal of Mathematics, **49**(1)(2017) 1-12.
29. Akram, M and G. Shahzadi, *Operations on single-valued neutrosophic graphs*, Journal of Uncertain Systems, **11**(3)(2017)176-196.
30. Akram, M and Rabia Akmal, *Intuitionistic fuzzy graph structures*, Kragujevac Journal of Mathematics, **41**(2)(2017) 219-237.
31. Akram, M, *Single-valued neutrosophic planar graphs*, International Journal of Algebra and Statistics, **5**(2) (2016), 157 – 167.
32. Akram, M, H.R. Younas *Certain types of irregular m -polar fuzzy graphs*, Journal of Applied Mathematics and Computing, **53**(1)(2017) 365-382.
33. Akram, M and Arooj Adeel, *Representation of labeling tree based on m -polar fuzzy sets*, Annals of Fuzzy Mathematics and Informatics, **13**(2)(2017) 189-197.
34. Akram, M and Arooj Adeel, *$(2, (p_1, p_2, \dots, p_m))$ -regularity in m -polar fuzzy graphs*, The Journal of Fuzzy Mathematics, **25**(1)(2017) 135-152.
35. Akram, M, Neha Waseem and W.A. Dudek, *Certain types of edge m -polar fuzzy graphs*, Iranian Journal of Fuzzy Systems, **14**(4)(2017), 27-50.
36. Akram, M and Sundas Shahzadi, *Neutrosophic soft graphs with application*, Journal of Intelligent and Fuzzy Systems, **32**(1)(2017) 841-858.
37. Akram, M, Anam Luqman, *Certain network models using single-valued neutrosophic directed hypergraphs*, Journal of intelligent and fuzzy systems, **33**(1)(2017), 575-588.

38. Akram, M and Anam Luqman, *Certain concepts of bipolar fuzzy directed hypergraphs*, Mathematics, **5**(1)(2017) 1-18.
39. Maryam Nasir, Saba Siddique and Akram, M, *Novel properties of intuitionistic fuzzy competition graphs*, Journal of Uncertain Systems, **2**(1)(2017) 49-67.
40. Akram, M and Maryam Nasir, *Concepts of interval-valued neutrosophic graphs*, International Journal of Algebra and Statistics, **6**(1-2)(2017) 22-41.
41. Akram, M and M. Sitara, *Bipolar neutrosophic graph structures*, Journal of the Indonesian Mathematical Society, **23**(1)(2017) 55-76.
42. Akram, M and M. Sarwar, *Novel applications of m -polar fuzzy hypergraphs*, Journal of Intelligent and Fuzzy Systems, **32**(3)(2017) 2747-2762.
43. Musavarah Sarwar and Akram, M, *Novel concepts of bipolar fuzzy competition graphs*, Journal of Applied Mathematics and Computing, **54**(2017), 511 – 547.
44. Shaista, H, Akram, M and Ashraf, *A fuzzy climate decision support systems for tomatoes in high tunnels*, International Journal of Fuzzy Systems, **19**(3)(2017):751-775.
45. Akram, M, Samanta, S. and Pal, M., *Application of bipolar sets in planar graphs*, Journal of Applied and Computational Mathematics, **3**(2017): 773-785.

Year 2016

1. Gani, N and 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.
2. A. Farooq, G. Ali, Akram, M, *On m -polar fuzzy groups*, International Journal of Algebra and Statistics, **5**(2)(2016), 115-127.
3. Akram, M and Adeel Farooq , *Bipolar fuzzy trees*, New Trends in Mathematical Sciences, **4**(3),(2016), 58-72.
4. Akram, M, and Saira Nawaz. *Certain types of soft graphs*, University Politehnica of Bucharest Scientific Bulletin-Series A-Applied Mathematics and Physics, **78**(4)(2016) 67-82.
5. Akram, M, Adeel Farooq and K. P. Shum, *On m -polar fuzzy lie subalgebras*, Italian Journal of Pure and Applied Mathematics, **36**(2016) 445-454.
6. Akram, M and Fariha Zafar, *Fuzzy soft trees*, Southeast Asian Bulletin of Mathematics, **40**(2), 2016.
7. Akram, M, Alshehri N. O., Davvaz, B. and Ather Ashraf, *Bipolar fuzzy digraphs in decision support systems*, Journal of Multiple-Valued Logic and Soft Computing, **27**(5-6)(2016), 531-551.

8. Akram, M and R. Akmal, *Certain operations on bipolar fuzzy graph structures*, Applications and Applied Mathematics, **11**(1)(2016) 1-26.
9. Myithili, K.K. , R. Parvathi and Akram, M., *Certain types of intuitionistic fuzzy directed hypergraphs*, International Journal of Machine Learning and Cybernetics, **7**(2)(2016) 287-295.
10. Musavarah Sarwar and Akram, M, *An algorithm for computing certain metrics in intuitionistic fuzzy graphs*, Journal of Intelligent and Fuzzy Systems, **30**(2016) 2405-2416.
11. Akram, M and Adeel Farooq, *m - polar fuzzy Lie ideals of Li algebras*, Quasigroups and Related Systems, **24**(2016) 101-110.
12. Arif Butt, M. and Akram, M, *A new intuitionistic fuzzy rule-based decision-making system for an operating system process scheduler*, SpringerPlus, **5**(2016), 1-17.
13. M.G. Karunambigai, Akram, M and R. Buvaneswari, *Strong and superstrong vertices in intuitionistic fuzzy graphs*, Journal of Intelligent and Fuzzy Systems, **30** (2016) 671-678.
14. Akram, M and Arooj Adeel, *m -polar fuzzy labeling graphs with application*, Mathematics in Computer Science, **10**(3)(2016) 387-402.
15. Akram, M and Neha Waseem, *Certain metrics in m -polar fuzzy graphs*, New Mathematics and Natural Computation, **12**(02)(2016) 135-155.
16. Sundas Shahzadi and Akram, M, *Coloring of bifuzzy graphs*. Italian Journal of Pure and Applied Mathematics, **36**(2016) 429-444.
17. Sundas Shahzadi and Akram, M, *Edge regular intuitionistic fuzzy soft graphs*, Journal of Intelligent and Fuzzy Systems, **31**(3)(2016) 1881-1895.
18. Akram, M and Sundas Shahzadi, *Representation of graphs using intuitionistic neutrosophic soft sets*, Journal of Mathematical Analysis, **7**(6)(2016) 31-53.
19. Akram, M, Rabia Akmal and Noura Alshehri, *On m -polar fuzzy graph structures*, SpringerPlus, DOI: 10.1186/s40064-016-3066-8, 2016.
20. Akram, M and Rabia Akmal, *Application of bipolar fuzzy sets in graph structures*, Applied Computational Intelligence and Soft Computing, **6**(2)(2016) 1-13.
21. Akram, M and Rabia Akmal, *Certain concepts in m -polar fuzzy graph structures*, Discrete Dynamics in Nature and Society, <http://dx.doi.org/10.1155/2016/5859080>, 2016.
22. Akram, M and Rabia Akmal, *Operations on Intuitionistic Fuzzy Graph Structures* , Fuzzy Information and Engineering, **8**(4)(2016) 389-410.
23. Akram, M and Saira Nawaz, *Fuzzy soft graphs with applications*, Journal of Intelligent and Fuzzy Systems, **30**(6)(2016) 3619-3632.

24. A. Nagoorgani, Akram, M and S. Anupriya, *Double domination on intuitionistic fuzzy graphs*, Journal of Applied Mathematics and Computing, **52**(1-2)(2016) 515-528.
25. Arif Butt, M. and Akram, M, *A novel fuzzy decision making system for cpu scheduling algorithm*, Neural Computing & Applications, **27**(7)(2016) 1927-1939.

Year 2015

1. Akram, M and Fariha Zafar, *On soft trees*, Buletinul Academiei de Stiinte a Republicii Moldova, **2**(78)(2015) 82-95.
2. Akram, M and Saira Nawaz, *Operations on soft graphs*, Fuzzy Information and Engineering, **7**(4)(2015) 423-449.
3. Shaista, H. and Akram, M, *Decision-making system for washing machine using AIFNN*, Mathematical Sciences Letters, **4**(3)(2015) 303-311.
4. Nagoor Gani, K. Prasanna Devi and Akram, M, *Bondage and non-bondage number of a fuzzy graph*, International Journal of Pure and Applied Mathematics, **103**(2)(2015) 215-226.
5. Akram, M and Saira Nawaz, *On fuzzy soft graphs*, Italian Journal of Pure and Applied Mathematics, **34**(2015)463-480.
6. Alshehri N. O and Akram, M, *Bipolar fuzzy competition graphs*, Ars Combinatoria, **121**(2015) 385-402.
7. Akram, M and N. O. Alshehri, *Tempered interval-valued fuzzy Hypergraphs*, Scientific Bulletin Series A– Applied Mathematics and Physics, **77**(1)(2015)39-48.
8. Akram, M., A. Farooq, A. Borumand Saeid and K.P. Shum , *Certain types of vague cycles and vague trees*, Journal of Intelligent and Fuzzy Systems, **28**(2)(2015)621-631.
9. Akram, M, Davvaz, B and Feng, F., *Fuzzy soft Lie algebras*, Journal of Multivalued Logic and Soft Computing, **24**(5-6) (2015) 501-520.
10. Akram, M., W. A. Dudek and Murtaza Yousaf, M., *Self centered interval-valued fuzzy graphs*, Afrika Matematika, **26**(5-6)(2015), 887-898.
11. Samanta, S., Akram, M. and Pal, M., *m- Step fuzzy competition graphs*, Journal of Applied Mathematics and Computing, **47**(1-2)(2015)461-472.

Year 2014

1. Akram, M., M.G. Karunambigai, M.G. and Kalaivani, O.K., *Cayley intuitionistic fuzzy graphs*, Journal of Applied Mathematics and Informatics, **32**(5-6)(2014), 827-842.
2. Alshehri N. O. and Akram, M, *Intuitionistic fuzzy planar graphs*, Discrete Dynamics in Nature and Society, **2014**(2014), Article ID 397823, 9 pages.

3. Zhou, M., Shenggang, L. and Akram, M., *Categorical properties of soft sets*, Scientific World Journal, **2014**(2014), Article ID 783056, 10 pages.
4. Feng, F., Akram, M, B. Davvaz and V. L. Fotea, *Attribute analysis of information systems based on elementary soft implications*, Knowledge-Based Systems, **70** (2014) 281-292.
5. Gani, N, Akram, M. and Rajalaxmi(a)Subahashini, D., *Novel properties of fuzzy labeling graphs*, Journal of Mathematics, **2014** (2014), Article ID 375135, 6 pages.
6. Akram, M., M.G. Karunambigai, K. Palanivel and S. Sivasankar, *Balanced bipolar fuzzy graphs*, Advanced Research in Pure Mathematics, **6**(2014), 1-14, doi: 10.5373/jarpm.
7. Shaista, H. and Akram, M., *Neuro-fuzzy control for heater fans using ANFIS and NEFCON*, Journal of Advanced Research in Scientific Computing, **6**(2)(2014) 6-16.
8. 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.
9. Akram, M., Ashraf, A and Sarwar, S.M., *Novel applications of intuitionistic fuzzy digraphs in decision support systems*, Scientific World Journal, Volume 2014, Article ID 904606, 11 pages.
10. Ashraf, A, Akram, M., and Sarwar, S.M., *Fuzzy decision support system for fertilizer*, Neural Computing & Applications, **25**(6)(2014) 1495-1505.
11. 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 .
12. Akram, M, Chen, W. J. and Davvaz, B, *On \mathcal{N} -hypergraphs*, Journal of Intelligent and Fuzzy Systems, **26** (2014) 2937–2944, IOS Press.
13. Akram, M., Murtaza Yousaf, M. and Dudek, W. A., *Regularity in vague intersection graphs and vague line graphs*, Abstract and Applied Analysis, **2014** (2014), Article ID 525389, 10 pages.
14. Ashraf, A, Akram, M., and Sarwar, S.M., *Type-II fuzzy decision support system for fertilizer*, Scientific World Journal, **2014** (2014), Article ID 695815, 9 pages.
15. Akram, M., Alshehri N. O, *Intuitionistic fuzzy cycles and Intuitionistic fuzzy trees*, Scientific World Journal, Volume 2014 (2014), Article ID 305836, 11 pages.
16. Akram, M, Feng, F., Sarwar, S. and Jun, Y.B., *Certain types of vague graphs*, U.P.B. Sci. Bull., Series A **76**(1)(2014) 141-154.
17. Akram, M., Gani, N. and Saeid, A.B., *Vague hypergraphs*, Journal of Intelligent and Fuzzy Systems **26** (2014) 647-653.

Year 2013

Department of Mathematics, University of the Punjab, New Campus, Lahore
 +92 (42) 999231241 ext: 104

Q m.akram@pu.edu.pk, makram.math@pu.edu.pk

1. Meng, B. L., Akram, M. and Shum, K.P., *Bipolar-valued fuzzy ideals of BCK/BCI–algebras*, Journal of Algebra and Applied Mathematics, **11**(1-2)(2013)13-27.
2. Akram, M, Dudek, W. A. and Sarwar, S., *Properties of bipolar fuzzy hypergraphs*, Italian Journal of Pure and Applied Mathematics, **31**(2013)426-458.
3. Alshehri N. O. and Akram, M, *Generalized bifuzzy soft Lie subalgebras*, Scientific World Journal, Volume 2013 (2013), Article 365065, 8 pages.
4. Alshehri N. O. and Akram, M, *Cayley bipolar fuzzy graphs*, Scientific World Journal, Volume 2013 (2013), Article 156786, 8 pages.
5. Akram, M., Li, S. and Shum, K.P., *Antipodal bipolar fuzzy graphs*, Italian Journal of Pure and Applied Mathematics, **31**(2013)425-438.
6. Akram, M, Alshehri N. O and Dudek, W. A., *Certain types of interval-valued fuzzy graphs*, Journal of Applied Mathematics, Volume 2013 (2013), Article ID 857070, 11 pages.
7. Akram, M, Davvaz, B. and Feng, F., *Intuitionistic fuzzy soft K -algebras*, Mathematics in Computer Science, **7**(3)(2013) 353-365.
8. 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.
9. Parvathi, R., Akram, M and Thilagavathi, S., *Intuitionistic fuzzy shortest hyperpath in a network*, Information Processing Letters **113** (2013) 599-603.
10. 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.
11. Akram, M, Jun, Y. B., Alshehri N. O. and S. Sarwar, *\mathcal{N} -structures applied to graphs*, World Applied Sciences Journal **22**(2013)1-8.
12. Akram, M, Jun, Y. B. and Feng, F., *Metric Aspects of \mathcal{N} -graphs*, World Applied Sciences Journal **22**(2013).
13. Akram, M. and Alshehri N. O., *Vague Lie Superalgebras*, Ars Combinatoria, **109**(2013)327-344.
14. M.G. Karunambigai, Akram, M, S. Sivasankar and K. Palanive, *Balanced intuitionistic fuzzy graphs*, Applied Mathematical Sciences, **7**(51)(2013) 2501–514.
15. Akram, M, Chen, W. J. and Shum, K.P., *Some properties of vague graphs*, Southeast Asian Bulletin of Mathematics **37**(2013) 307-324.
16. Alshehri N. O., Akram, M. and R. S. Alghamdi, *Applications of soft sets in K -algebras*, Advances in Fuzzy Systems, Volume **2013** (2013), Article ID 319542, 8 pages.

17. Akram, M. and Feng, F., *Soft intersection Lie algebras*, Quasigroups and Related Systems **21**(2013)1-10.
18. Akram, M., *Bipolar Fuzzy Soft Lie algebras*, Quasigroups and Related Systems **21**(2013)11-18.
19. Akram, M., *Bipolar fuzzy graphs with applications*, Knowledge Based Systems, **39**(2013) 1-8.
20. Akram, M. and Dudek, W. A., *Intuitionistic fuzzy hypergraphs with applications*, Information Sciences, **218**(2013)182-193.
21. Akram, M., Alshehri N. O. and R. S. Alghamdi, *Fuzzy soft K -algebras*, Utilitas Mathematica, **90** (2013) 307-325.

Year 2012

1. Akram, M. and Parvathi. R., *Properties of intuitionistic fuzzy line graphs*, Notes on intuitionistic fuzzy sets, **18**(3) (2012)52-60.
2. Akram, M. and Davvaz B., *Generalized fuzzy ideals of K -algebras*, Journal of multivalued valued and soft computing, **19**(2012)475-491.
3. Akram, M. and Dudek, W. A., *Regular bipolar fuzzy graphs*, Neural Computing & Applications, **21**(2012)197-205.
4. Akram, M., *Interval-valued fuzzy line graphs*, Neural Computing & Applications, **21**(2012)145-150.
5. Chen, W. and Akram, M., *Fuzzy subcoalgebras and fuzzy subcomodules*, Journal of Algebra and Applied Mathematics **10** (2012)15-32.
6. Li, H., Akram, M. and Yin, Y., *R -valued ideals of ordered hemirings*, World Applied Sciences Journal, **17** (2012) 1808-1814.
7. Dar, K.H. and Akram, M., *Left and right mappings of a automorphic loop*, Journal of Algebra and Applied Mathematics **10** (2012)49-59.
8. Lin Y., Akram, M. and Zhan J., *Characterizations of regular ordered semigroups in terms of new fuzzy ideals*, World Applied Sciences Journal, **17**(2012)1728-1735.
9. Akram, M. and Dar, K. H., *On \mathcal{N} -graphs*, Southeast Asian Bulletin of Mathematics, **36**(2012)787-800.
10. Akram, M., *Anti fuzzy structures on graphs*, Middle-East Journal of Scientific Research **11** (12)(2012)1636-1643.
11. Akram, M., Chen, W. and Lin, Y., *Bipolar fuzzy Lie superalgebras*, Quasigroups and Related Systems, **20**(2012)139-156.

Department of Mathematics, University of the Punjab, New Campus, Lahore
 +92 (42) 999231241 ext: 104

Q m.akram@pucit.edu.pk, makram.math@pu.edu.pk

32/38

12. Akram, M. and Alshehri N. O., *Bipolar fuzzy Lie ideals*, Utilitas Mathematica **87**(2012)265-278.
13. Akram, M. and Davvaz, B., *Strong intuitionistic fuzzy graphs*, FILOMAT **26**(1)(2012) 177-196.
14. Chen W., Akram, M. and Guan Y. , *Intuitionistic fuzzy subcoalgebras of coalgebras*, Ars Combinatoria, **106**(2012)423–434.
15. Akram, M. and Chen, W., *Generalized anti fuzzy Lie algebras*, Utilitas Mathematica **87** (2012) 111-122.
16. Akram, M., Karunambigai, M.G. and Kalaivani, O.K., *Some metric aspects of intuitionistic fuzzy graphs*, World Applied Sciences Journal, **17** (2012) 1789–1801.

Year 2011

1. Akram, M., *Bipolar fuzzy graphs*, Information Sciences **181** (2011) 5548-5564.
2. Akram, M. and Karunambigai, M.G., *Metric in bipolar fuzzy graphs*, World Applied Sciences Journal **14**(12)(2011)1920-1927.
3. Akram, M., *A new structure of fuzzy Lie algebras*, World Applied Sciences Journal **14**(12)(2011)1879-1887.
4. Akram, M., *Bipolar fuzzy \mathcal{L} -Lie algebras*, World Applied Sciences Journal 14(12)(2011)1908-1913.
5. Akram, M., Dar K. H. and Shum K. P. , *Interval-valued (α, β) - fuzzy K -algebras*, Applied Soft Computing, **11**(1)(2011) 1213-1222.
6. Akram, M. and Dudek W. A., *Interval-valued fuzzy graphs*, Computers Math. Appl. **61** (2011) 289-299.
7. Akram, M. and Alshehri N. O., *Fuzzy K -ideals of K -algebras*, Ars Combinatoria, volume 99, April 2011, 399-413.
8. Dar K. H., Akram, M., *Characterizations of automorphic loops*, Annals of the University of Craiova, Mathematics and Computer Science Series, **38**(2)(2011)69-80.
9. Akram, M., *Cofuzzy graphs*, The Journal of Fuzzy Mathematics, **19**(4)(2011)1-12.
10. Chen W. and Akram, M., *Interval-valued fuzzy structures on Lie superalgebras*, The Journal of Fuzzy Mathematics **19**(4)(2011).

Year 2010

1. 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.

2. Akram, M. and Shum K. P., *Interval-valued bifuzzy k -ideals of semirings*, The Journal of Fuzzy Mathematics **18**(3)(2010)757-774.
3. Akram, M. and Dudek W. A., *Interval-valued $(\in, \in \vee q_{\tilde{m}})$ - fuzzy subquasigroups*, Quasigroups and Related Systems **18** (2010).
4. Akram, M. and Shum K. P., *Fuzzy Lie ideals over a fuzzy field*, Italian Journal of Pure and Applied Mathematics, **27** (2010).
5. Akram, M., B.Davvaz and Shum K. P., *Generalized fuzzy Lie ideals of Lie algebras*, Fuzzy Systems and Mathematics, **24**(4) (2010)48-55.
6. Dar K. H. and Akram, M., *Characterization of K -algebras by self maps II*, Annals of University of Craiova, Math. Comp. Sci. Ser **37**(1)(2010)96-103.
7. Meng, B.L.and Akram, M., *On anti fuzzy ideals of BCK-algebras*, The Journal of Fuzzy Mathematics **18**(4)(2010)933-942.

Year 2009

1. Akram, M., *Bifuzzy left h -ideals of hemirings with interval-valued membership function*, Mathematica Slovaca **59**(6)(2009)719-730.
2. Akram, M. and Dar K. H., *Intuitionistic fuzzy topological K -algebras*, Journal of Fuzzy Mathematics **17**(1)(2009)19-34.
3. Akram, M. and Dar K. H., *Interval-valued fuzzy structures of K -algebras*, Journal of Fuzzy Mathematics **17**(4)(2009)897-916.
4. Akram, M. and Shum K. P., *Vague Lie subalgebras over a vague field*, Quasigroups and Related Systems **17**(2)(2009)141-156.
5. Akram, M. and Dudek W. A., *New fuzzy subquasigroups*, Quasigroups and Related Systems **17**(2)(2009)107-118.
6. Akram, M., *New Fuzzy Lie Subalgebras over a Fuzzy Field*, World Applied Sciences Journal **7**(7)(2009)33-38.
7. Akram, M., *Co-fuzzy Lie Superalgebras Over a Co-fuzzy Field*, World Applied Sciences Journal **7**(7)(2009)25-32.
8. Akram, M. and Dudek W. A., *Interval-valued Intuitionistic Fuzzy Lie Ideals of Lie Algebras*, World Applied Sciences Journal **7**(7)(2009)812-819.,
9. Akram, M., Dar K. H., Meng B. L. and Liu Y. L. *Redefined fuzzy K -algebras*, World Applied Sciences Journal **7**(7)(2009)805-811.
10. Dar K. H. and Akram, M., *A BCC-algebra as a subclass of K -algebras*, Annals of University of Craiova, Math. Comp. Sci. Ser **36**(1)(2009)12-16.

Department of Mathematics, University of the Punjab, New Campus, Lahore
+92 (42) 999231241 ext: 104

Q m.akram@pu.edu.pk, makram.math@pu.edu.pk

11. Meng B. L. and Akram, M., $(\in, \in \vee q)$ -fuzzy BCK-filters. (Chinese) Pure Appl. Math. (Xi'an) **25**(1) (2009)121–124.

Year 2008

1. Akram, M., $(\in, \in \vee q)$ -fuzzy ideals of K -algebras, Ars Combinatoria **89**(2008)191-204.
2. Akram, M. and Dudek W. A., Intuitionistic fuzzy left k -ideals of semirings, Soft Computing **12**(5)(2008) 881-890.
3. Akram, M., Fuzzy Lie ideals of Lie algebras with interval-valued membership function, Quasigroups and Related Systems **16**(1)(2008)1-12.
4. Akram, M., Bifuzzy ideals of K -algebras, WSEAS Transactions on Mathematics **7**(5)(2008) 313-322.
5. Shum K. P. and Akram, M., Intuitionistic (T, S) -fuzzy ideals of nearrings, Journal of Algebra and Discrete Structures **6**(1)(2008)37-52.
6. Akram, M., Generalized fuzzy Lie subalgebras, Journal of Generalized Lie Theory and Applications **2**(4)(2008)261-268.
7. Akram, M. and Dudek W. A., Generalized fuzzy subquasigroups, Quasigroups and Related Systems **16**(2)(2008)133-146.
8. Akram, M., Fuzzy subquasigroups with respect to a s -norm, Bul. Acad. Sci. Republ. Moldova, ser. Matematica **57**(2)(2008)3-13.
9. Akram, M., Intuitionistic fuzzy Lie ideals of Lie algebras, Journal of Fuzzy Mathematics **16**(4)(2008) 991-1008.
10. 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.
11. Akram, M., Redefined fuzzy Lie algebras, Quasigroups and Related Systems **16**(2)(2008)133-146.
12. 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.
13. 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.

Year 2007

1. Akram, M., On T -fuzzy ideals in nearrings, International Journal of Mathematics and Mathematical Sciences, Volume 2007 (2007), Article ID 73514, 14 pages.
2. 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.

Department of Mathematics, University of the Punjab, New Campus, Lahore
+92 (42) 999231241 ext: 104

Q m.akram@pucit.edu.pk, makram.math@pu.edu.pk

35/38

3. Akram, M. and Shum K. P., *Bifuzzy ideals of nearings*, Algebras, Groups and Geometries **24**(2007) 389-407.
4. 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.
5. Akram, M. and Dar K. H., *Fuzzy ideals of K -algebras*, Annals of University of Craiova, Math. Comp. Sci. Ser **34**(2007) 3-12.
6. Akram, M., *Intuitionistic (S, T) -fuzzy Lie ideals of Lie algebras*, Quasigroups and Related Systems **15** (2007) 201 – 218.
7. Akram, M. and Shum K. P., *Intuitionistic fuzzy Lie algebras*, Southeast Asian Bull. Math. **31** (2007) 843-855.
8. Akram, M., *On numerical solution of the parabolic equation with Neumann boundary conditions*, International Mathematical Forum, **2**(9-12)(2007) 551-560.
9. Dar K. H. and Akram, M., *On K -homomorphisms of K -algebras*, International Mathematical Forum **2**(46)(2007) 2283-2293.
10. Akram, M. and Kim H. S., *On K -algebras and BCI-algebras*, International Mathematical Forum **2**(10)(2007) 583-587.
11. Akram, M. and Dar K. H., *On anti fuzzy left h -ideals in hemirings*, International Mathematical Forum **2**(45-48)(2007) 2295-2304.
12. 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.
13. Akram, M., *A parallel algorithm for the heat equation with derivative boundary conditions*, International Mathematical Forum, **2**(12)(2007) 565-574.

Year 2006

1. Akram, M. and Dar K. H., *On fuzzy topological K -algebras*, International Mathematical Forum **1** (2006) 1113-1124.
2. Dar K. H. Dar and Akram, M., *On subclasses of $K(G)$ -algebras*, Annals of Uni. of Craiova, Math. Comp. Sci. Ser, **33**(2006)235-240.
3. Dar K. H. and Akram, M., *On endomorphisms of BCH-algebras*, Annals of Uni. of Craiova, Math. Comp. Sci. Ser, **33**(2006)227-234.
4. Akram, M. and Dar K. H., *Fuzzy associative l -ideals of IS-algebras with t -norms*, Annals of Uni. of Craiova, Math. Comp. Sci. Ser, **33**(2006)8-15.
5. Akram, M. and Kim H. S., *On $(T-)$ fuzzy k -ideals/subalgebras of B -algebras*, Journal of Fuzzy Mathematics **14**(4) (2006) 907-917.

Department of Mathematics, University of the Punjab, New Campus, Lahore
+92 (42) 999231241 ext: 104

Q m.akram@pucit.edu.pk, makram.math@pu.edu.pk

36/38

6. 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.
7. 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.
8. 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 Volume 2007 (2007), pages 12.
9. Akram, M., *On properties of fuzzy associative I -ideals in IS-algebras with t -conorms*, International Mathematical Forum **1**(25-28) (2006)1207-1216.
10. Akram, M., *Intuitionistic fuzzy closed ideals in BCI-algebras*, International Mathematical Forum **1**(9-12)(2006)445-453.
11. Akram, M. and Shum K. P., *Intuitionistic fuzzy topological BCC-algebras*, Advances in Fuzzy Mathematics **1**(1)(2006)1-13.
12. Akram, M., *Anti fuzzy Lie ideals of Lie algebras*, Quasigroups and Related Systems **14** (2006) 123-132.

Year 2005

1. Dar K. H. and Akram, M., *On a K -algebra built on a group*, SEA Bull. Math. **29**(1)(2005) 41-49.
2. Akram, M. and Dar K. H., *T -fuzzy ideals in BCI-algebras*, International J. Mathematicas and Mathematical Sciences **12** (2005)1899-1907.
3. Akram, M. and Dar K. H., *On fuzzy d -algebras*, Punjab University Journal of Mathematics (Lahore) **37**(2005) 61-76.
4. Akram, M., *A numerical scheme for the diffusion equation with a know source term*, International Journal Applied Mathematics **17**(3) (2005) 257-269.
5. Akram, M., *A parallel algorithm for the inhomogeneous heat equations*, IISC Journal, **85**(5) (2005) 253-264.
6. 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.
7. Akram, M., *A parallel algorithm for diffusion equation subject to Neumann boundary conditions*, International Journal Pure and Applied Mathematics **24**(3) (2005) 355-364.

8. 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.

Year 2004

1. 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.

Year 2003

1. 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.