

## Literature Survey on Fuzzy Sets, Multi Sets, Rough Sets and Applications

by

Sudarsan Nanda

KIIT Deemed to be University, Bhubaneswar 751024, India

e-mail : snanda@kiit.ac.in

### REFERENCES

1. A. Bogomolny, On the Perimeter and Area of Fuzzy Sets, GSS, 23 (1987), 257-569.
2. Abdel-Monsef M.E., A.E. Ramdan, Fuzzy Supratopological Spaces, J. Pure. Appl. Math. 18 (4), (1987), 322-329.
3. Acharya, S., M.P. Biswal and S. Nanda, Fuzzy probabilistic linear programming problems with fuzzy log-normal random variables, J. Fuzzy Math. 21(2) (2013), 387-400.
4. Acharya, S., S. Nanda and P.K. Rout, Multi-objective Fuzzy Probabilistic Programming Problem Involving Multi-choice Parameters, Int. J. Fuzzy Math 24 (3)
5. Akahoshi, K., SLR camera '7xi' using fuzzy logic in AF, AE, AZ. IFES'91, 1132-1133.
6. Albert Peter, The algebra of Fuzzy Logic, FSS, I, (1987) 203 -230.
7. Aldortoh I.W., Function Space in Fuzzy Topology, FSS 32, (1989), 115 - 124.
8. Ali, D.M., On a fuzzy regularity concept. Proc. Math. Soc. 5, 1989, 147-152.
9. Alvarez P. Gil and F. Gracia Suarez, Two Families of Fuzzy Integrals, FSS 18, (1986), 67-81.
10. Anthony J.M. and H. Sherwood, Fuzzy Groups, Redefined, JMAA 69, (1979), 124 - 130.
11. Anthony J.M. and H. Sherwood, A Characterization of Fuzzy Subgroups, FSS 7 (1982), 279-305.
12. Arakawa, K., Y. Arakawa, Digital signal processing using fuzzy clustering for nonstationary signals. IFES'91, 877-888.
13. Archer, K.P., S. Wang, Fuzzy set representation of neural network classification. IEEE Trans. Systems Man and Cybernetics 21(4), 1991, 735-742.
14. Ashida, H., H. Ichihashi, Fuzzy learning control of a biped locomotive robot. IFES'91, 1013-1023.
15. Atanassov K., Intuitionistic Fuzzy Sets, FSS, 20 (1986), 87-96.
16. Atanassov K., More on Intuitionistic Fuzzy Sets, FSS, 33 (1989), 37 - 46.
17. Atanassov K., Remarks on the Intuitionistic Fuzzy Sets, FSS, 75 (1995), 401 - 402.
18. Aumann R.J., Integrals of Set-Valued Functions, Journal on Mathematical Analysis and Applications, 12 (1965), 1-12.
19. Azad, K.K., On Fuzzy semi-continuity, fuzzy almost continuity and fuzzy weakly

- continuity, *JMAA* (1981) 14-32.
20. Azari B., Automatic Handwriting Identification Based On The External Properties Of The Samples, *IEEE Trans. System Man Cybernet*, 13, (1983), 635 - 642.
  21. Azari B., Automatic handwriting identification based on the external properties of the samples, *IEEE Trans, System man Cybernet* 13 (1983) 635-642.
  22. Badard R., Comparison of Topological and Uniform Structures for Fuzzy Numbers and The Fixed Point Problem, *FSS*, 21, (1987), 211-220.
  23. Badard R., Extending Lattice Structures, *J. Math. Anal. Appl.*, 136(1), (1988), 314-320.
  24. Badard R., Fixed point Theorems for Fuzzy Numbers, *FSS*, 13, (1984), 291-302.
  25. Badard R., Fuzzy Pretopological Spaces and their representation, *J. Math. Anal. Appl.*, 81 (2), (1981), 378-390.
  26. Badard R., Fuzzy Preuniform Structure and The Structure They Induce, 2. Applications, *J.Math. Anal.Appl.*, 100 (2), (1984), 549 - 560.
  27. Badard R., Fuzzy Preuniform Structures and The Structures They Induce, I. Main Results, *J. Math. Anal. Appl.*, 100(2), (1984), 530-548.
  28. Badard R., Fuzzy Smooth Preproximate spaces *FSS*, 30, (1989), 315-320.
  29. Badard R., Smooth Preuniform and Preproximity Spaces, To Appear in *JMAA*.
  30. Badard R., The Law of Large Numbers for Fuzzy Process and Estimation Problem, *Information Science*, 28
  31. Badle N. and E. Trillas, Entropy and Fuzzy Integral, *JMAA* 69, (1979), 469-474.
  32. Baird H.S., The Skew Angel for Printed Documents, *Proc. SPIE* 40, (1987), 21-24.
  33. Baldwin, J.F., Approximate reasoning , fuzzy and probabilistic control using a theory of mass assignments. *IFES'91*, 611-622.
  34. Baldwin, J.F., B.W. Pilsworth, Semantic unification with fuzzy concepts in FRIL. Special issue on Uncertainty Management in Knowledge-Based systems (B. Bouchon-Meunier, Gu. Ed.), *Internat. J. Intelligent Systems* 7(1), 1992,61-69.
  35. Ban, J., Sequence of random fuzzy sets. *Internat. J. General Systems* 20(1), 1991,17-22.
  36. Batur C., V. Kasparian, Adaptive expert control. *Internat. J. Control* 54(4), 1991, 867-881.
  37. Beigi H.S.M., K. Nathan, G.J. Clary, J. Subrahmonia, Size normalization in on-line unconstrained handwriting recognition, *Proc. ICA SSP'94*, Adelaide, Australia, April 1994, 169-172.
  38. Bellman R.E. and L.A. Zadeh, Decision making in a Fuzzy Environment, *Mgmt. Sc.* 17, (1970), 141-164.
  39. Bellman R.E. and L.A. Zadeh, Decision making in a Fuzzy Environment, *FSS* 9, (1983), 229-239.
  40. Belluce, L.P., A. Di Nola, A. Lettieri, On some lattice quotients of MV-algebras, *Ricerche Mat.* 39(1), 1990, 41-59.
  41. Bengio Y., Y. Lecun, Word Normalization For On-Line Handwritten Word Recognition, *Proc. 12th ICPR*, 2, Oct (1994), 409-413.
  42. Bercu S., G. Lorette, On-Line handwriting Recognition An Approach Based on Hidden Markov Models, *Third Int. Workshop On Frontiers In Handwriting Recognition Buffalo, USA May (1993)*, 385-390.
  43. Biswas, R. and S. Nanda, Rough Groups and Rough Subgroups, *Bull. Polish Aca*

- Sci Math 42 (1994) 251-254.
44. Biswas, R., On rough sets and fuzzy rough sets, Bull. polish Academy, Sci Math. 42(4) (1994) 345-349.
  45. Blizard, W.D., A Theory of Shadows, (An Informal Discussion of Negative Membership), ANPA WEST, Journal of the Western Regional Chapter of the Alternative Natural Philosophy Association, 1 (3) (Spring 1989), 7 -9.
  46. Blizard, W.D., Collection Containing Indistinguishable Elements, Discrete and Combinatorial Physics, Proceedings of the Ninth Annual International Meeting of the Alternative Natural Philosophy Association, University fo Cambridge, September 23-28 (1987), 190-192.
  47. Blizard, W.D., Multiset Theory, Notre Dame Journal Formal Logic, 30 (1989), 36-66.
  48. Blizard, W.D., Negative Membership, Notre Dame Journal of Formal Logic, 31(1990), 346-368.
  49. Blizard, W.D., The Development of Multiset Theory, Morden Logic, 1 (1991), 319-352.
  50. Bonissone, P.P., A compiler for fuzzy logic controllers. IFES'91, 706-717.
  51. Bordogna, G., C. Carrara, G. Pasi, Query term weights as constraints in fuzzy information retrieval. Inform. Process and Management, 27(1), 1991, 15-26.
  52. Bosc, P., O. Pivert, About equivalences in SQLF, a relational language supporting imprecise querying. IFES'91, 309-320.
  53. Bouchon-Meunier, B., Inferences with imprecisions and uncertainties in expert systems. FES, 43-54.
  54. Bouchon-Meunier, B., J. Yao, Linguistic modifiers and imprecise categories. Special Issue on Uncertainty Management in Knowledge-Based Systems, Internat. J. Intelligent Systems 7(1), 1992, 25-36.
  55. Bouille, F., Fuzzy neural processing by an object-oriented expert system-Application to geographic information systems. IFES'91, 574-585.
  56. Braid H.S., The skew angel for printed documents, Proc. SPIE 40 (1987) 21-24.
  57. Brocklehurst E. R., P.D. Kenward, Preprocessing For Cursive Script Recognition, NPL Report DITC 13288, Nov(1988).
  58. Brown M.K., S.C. Glinski, Stochastic context-free language modeling with evolutionary grammer, ICSLP'94 Vol. 2, Sept 1994, 779-782.
  59. Bruckstein A. M., R.J. Holt, A.W. Netravali, T. J. Richardson, Invariant Signature for Planner Shape Recognition Under Partial Occlusion, CVGIP, Image Understanding, 58, (1993), 49-65.
  60. Bryniarski, E., A calculus of rough sets of the first order. Bull. Polish Acad. Sci. Math. 37(1-6), 1990, 71 - 78.
  61. Bulbul, A., Some results on paracompactness of fuzzy topological spaces. National Mathematics Symp., Trabzon, 1987. J. Karadeniz Tech. Univ. Fac. Arts Sci. Ser Math.-Phys. 11, 1988, 113-117.
  62. Burr D. J., A Normalizing Transform For Cursive Script recognition, Proc. Sixt ICPR, Vol. 2, Munich, Oct (1982), 1027-1032.
  63. Butnariu, D., E.P. Klement, Triangular norm-based measures and their Markov kernel representation. J. Math. Anal. appl. 162, 1991, 111-143.
  64. Carnacchio J.V., Maximum Entropy Complexity Measures, Int. J. Gen. Sys. 3, (1997), 215-225.

65. Carnacchio J.V., Maximum Entropy Complexity Measures, *Int. J. Gen. Sys.* 3 (1997), 215-225.
66. Castro, J.L., E. Trillas, Tarski's fuzzy consequences. *IFES'91*, 70-81.
67. Cavallo R.E. and G.J.K. Lis, Reconstruction of Possibilistic Behavior System, *FSS* 8, (1982) 175-197.
68. Cerny, M., Fuzzy approach to vector optimization. *Internat. J. General Systems* 20(1), 1991, 23-29.
69. Chadwick, J.J., A generalised form of compactness in fuzzy topological spaces. *J. Math. Anal. Appl.* 162, 1991, 92-110.
70. Chakraborty K., R. Biswas and S. Nanda, Fuzziness in Rough Sets, *Fuzzy Sets and Systems*, 110 (2000) 247-251.
71. Chakraborty K., R. Biswas and S. Nanda, Fuzzy Shadows, *FSS* 101 (1999) 413-421, MR 99i03066.
72. Chakraborty K., R. Biswas and S. Nanda, On Yagers Theory of Bags and Fuzzy Bags, *Computer and Artificial Intelligence*, 18 (1999) 1-7, MR 99k 03044.
73. Chakraborty K., R. Biswas and S. Nanda, Union and Intersection of Fuzzy Sets, *BUSAFEL*, 71 (1997) 232-236.
74. Chakraborty M.K., M. Das, On Fuzzy Equivalence-II, *FSS* 11, (1983), 299-307.
75. Chakraborty M.K., S. Sarkar, Fuzzy Antisymmetry and Order, *FSS*, 21, (1987), 169-182.
76. Chakraborty, K., R. Biswas and S. Nanda, A note on Fuzzy Union and Fuzzy Intersection, *FSS* 105 (1999) 499-502, MR 1696287, 03E, 72.
77. Chakraborty, K., R. Biswas and S. Nanda, Fuzzy L-structures, *FSS* 103 (1999) 177-182, MR 99i06006.
78. Chakraborty, K., R. Biswas and S. Nanda, Fuzzy Shadows, *Fuzzy Sets and Systems (FSS)* 101 (1999) 413-421, MR 99i 03066.
79. Chakraborty, K., R. Biswas and S. Nanda, Nearest Ordinary Set of a Fuzzy Set-a Rough Theoretic Construction, *Bull. Polish Aca Sci* 46 (1998). 105-114.
80. Chakraborty, K., R. Biswas and S. Nanda, On Fuzzy Metric Spaces, *Int J. FSS* 99 (1998) 111-114, MR 1643170, 54 E 35.
81. Chakraborty, K., R. Biswas and S. Nanda, On Rough Relations, *Foundations Compu. Decision Sci.* 23 (1998) 241-252, MR 2000b03189.
82. Chakraborty, K., R. Biswas and S. Nanda, On Yagers Theory of Bags and Fuzzy Bags, *Computer and Artificial Intelligence*, 18 (1999) 1-7, MR 99k 03044.
83. Chakraborty, Kankana and S. Nanda, A note on fixed point theorem for fuzzy mappings, *Int. J. Uncertainty, Fuzziness and Knowledge- Based System* 13 (6) (2005) 613-617.
84. Chang, C. L., Fuzzy Topological Spaces, *JMAA* 24, (1968) 182-190.
85. Chang, P.L., Y.C. Chen, Fuzzy number in business conditions monitoring indicators: fuzzy set methodologies in economic condition. *IFES'91*, 1091-1100.
86. Chen, C.L., P.C. Chen, A fuzzy model-following control system design procedure. *IFES'91*, 718-729.
87. Chen, S. M., J.S. Ke, C.F. Chang, An inexact reasoning technique based on extended fuzzy production rules. *Cybernet. Systems* 22(2), 1991, 151-171.
88. Chen, S., NS-closeness in L-fuzzy topological spaces. *IFES'91*, 27-32.
89. Chen, Z. Q., F. Terrier, About temporal uncertainty. *Proc. of the Conf. IEEE/ACM*

- Developing and Managing Expert System Programs (DMESP), Washington, DC, Sept. 30-Oct. 2, 1991, 223-230.
90. Chiu, H.P., D. C. Tseng, A Novel Stroke-Based Feature Extraction For Handwritten Chinese Character Recognition, *Pattern Recognition*, 32, (1999), 1947-1959.
91. Cios, K.J., I Shin, L.S. Goodenay, Using fuzzy sets to diagnose coronary artery stenosis. *IEEE Computer* 1991, 57-63.
92. Clergeau-Toummire S., R. Plamondon, Integration of lexical and syntactical language in a handwriting recognition system, *Mach. Vision Appl* 8 (1995) 249-259.
93. Conard F., Fuzzy Topological Concepts, *JMAA* 74, (1980), 432-440.
94. Dan Ralescu, Gregory Adams., The Fuzzy Integral, *Journal of Mathematical Analysis and Applications*, 75 (1980) 562-570.
95. Dang, S., A Behera and S. Nanda, Fuzzy Weakly Semicontinuous Function, *FSS* 67 (1994) 325-333, MR95f 54009.
96. Dang, S., A Behera and S. Nanda, Some results on Fuzzy Supra-topological Spaces, *FSS* 61(1994) 333-339, MR94m54016.
97. Dang, S., A Behera and S. Nanda, Fuzzy Extremally Disconnected Spaces, *J Fuzzy Math* 1(4) (1993) 723-737, MR 1249185.
98. Dang, S., A Behera and S. Nanda, Fuzzy Topological Complementation Theorem, *J. Fuzzy Math* 1(2) (1993) 303-310, MR 94f54010.
99. Dang, S., A Behera and S. Nanda, On Fuzzy Strongly Quasi-neighbourhood finite Families, *J Fuzzy Math* 1(3) (1993) 517-529, MR 94f54011.
100. D'Apuzzo L., R. Sarno, M. Squillante,  $\tau$ -decomposable measures and integrals: convergence and absolute continuity. *Rendiconti di Matematica (Roma, Italy)*, Serie VII 11, 1991, 425-439.
101. De Campos, L.M., S. Moral, Propagating uncertain information forward. Special issue on Uncertainty Management in Knowledge-Based Systems (B. Bouchon-Meunier, Gu. Ed.), *Internat. J. Intelligent Systems* 7 (1), 1992, 15-24.
102. De Neyer, M., R. Gorez, J. Barreto, Disturbance rejection based on fuzzy models. In: *Decision Support Systems and Qualitative Reasoning (Proc. of the IMACS Inter. Workshop on Decision Support Systems and Qualitative Reasoning, Toulouse, France, 13-15 March, 1991)* (M.G. Singh, L. Trave-Massuyes, eds.) North-Holland, Amsterdam, 1991, 215-220.
103. Delgado, M., J.L. Verdegay, Vila, M.A. Decision Making on incomplete and vague information. *IFES'91*, 953-964.
104. Di Nola, A., A. Lettieri, Some results on matrix eigenvectors in distributive lattices. *J. Combinat. Inform. System. sci.* 15(1), 1990, 178-190.
105. Di Nola, A., S. Sessa, W. Pedrycz, A study of approximate reasoning mechanisms via fuzzy relation equations. *Internat. J. Approximate Reasoning* 6(1), 1992, 33-44.
106. Di Nola, A., W. Pedrycz, S. Sessa, Reduction Procedures for rule-based expert systems as a tool for studies of properties of expert's knowledge. *FES*, 69-79.
107. Diamond, P., Congruence classes of fuzzy sets from a Banach space. *J. Math. Anal. Appl.* 162, 1991, 144-151.
108. Dishkant, H., V. Vasilenko, New version of fuzzy logic, fit for the prediction of the psychological state. *IFES' 91*, 115-121.
109. Downton A. C., S. Impedovo, *Progress in Handwriting Recognition*, World Scientific, Colehester 1996.

110. Downton A.C., S. Impedovo, Progress in Handwriting recognition, World Scientific, Colechester 1996.
111. Druckmuller, M., Many-valued logic system for linguistic model processing. *Internat. J. General Systems* 20(1), 1991, 31-37.
112. Dubois D. and H. Prade(1980), *Fuzzy Sets and Systems Theory and Applications*, Academic, New York.
113. Dubois D. and H. Prade, Criteria Agree and Ranking of Alternatives in the Frame Work of Fuzzy Set Theory, *TIMS* 20, (1989) 209-240.
114. Dubois D. and H. Prade, Operations on Fuzzy Numbers, *International Journal Systems Science*, 9 (1978), 613-626.
115. Dubois D. and H. Prade., Criteria Aggregatia and Ranking of Alternatives in the Frame Work of Fuzzy Set Theory, *TIMS* 20, (1984), 209-240.
116. Dubois D. and H. Prade., Towards Fuzzy Differential Calculus Part 1: Integration of Fuzzy Mappings, *FSS*, 8 (1982) 1-17.
117. Dubois D. and H. Prade., Towards Fuzzy Differential Calculus Part 2: Integration of Fuzzy Integrals, *FSS*, 8 (1982) 105-116.
118. Dubois D. and H. Prade., Towards Fuzzy Differential Calculus Part 3: Differentiation, *FSS*, 8 (1982),225-233.
119. Dubois, D., H. Prade, Certainly and uncertainty of (vague) knowledge and generalized dependencies in fuzzy data bases. *IFES'91*, 239-249.
120. Dubois, D., H. Prade, Epistemic entrenchment and possibilistic logic. *Artificial Intelligence* 50, 1991, 223-239.
121. Dubois, D., J. Lang, H. Prade, A possibilistic assumption-based truth maintenance system with uncertain justifications, and its application to belief revision. In: *Truth Maintenance Systems (Proc. of the ECAI-90 Workshop, Stockholm, August 1990)* (J.P. Martins, M. Reinfrank, eds.) *Lecture Notes in Artificial Intelligence*. Vol. 515, Springer-Verlag, Berlin, 1991, 87-106.
122. Dubois, D., J. Lang, H. Prade, Advances in automatic reasoning using possibilistic logic. *FES*, 125-134.
123. Dubois, D., X. Mo, H. Prade, Fuzzy discrimination trees. *IFES'91*, 250-260.
124. Dubosis, D., H. Prade, Semantic considerations on order of magnitude reasoning. In: *Decision Support Systems and Qualitative Reasoning (Proc. of the IMACS Inter. Workshop on Decision Support Systems and Qualitative reasoning, Trave-Massuyes, eds.)*, North-Holland, Amsterdam, 1991, 223-228.
125. Duvernoy J., Handwriting Synthesis and Classification by Means of Space-variant Transform and Karhnen-Loeve Analysis, *J. Opt. Soc. Am.*, 65 (1975),1331-1336.
126. Duvernoy J., Handwriting synthesis and classification by means of space-variant transform and Karhunen-Loeve analysis, *J. opt. Soc. Am* 65 (1975) 1331-1336.
127. Dvurecenskij, A., B. Riecan, Fuzziness and commensurability. *Fasc. Math.* 19, 1990, 39-46.
128. Dvurecenskij, A., B. Riecan, Fuzzy quantum models. *Internat J. General Syatems* 20(1), 1991, 39-54.
129. Edlman S., S. Ullaman, T. Flash, Reading Cursive Script by Alignment of Letter Prototypes, *Int. J. Comput Vision*, 5(3),(1990) 303-331.
130. Edlman S., S. Ullman, T. Flash, Reading cursive script by alignment of letter prototypes, *Int. J. Comput. Vision*5(3) (1990)303-331.

131. Eklund P., Category Theoretic Properties of FTS, FSS, 13(1984) 303-310.
132. El-Dali S. S., R. Ramsis, A. Kamel., A Recognition System For Printed Arabic Text, Pattern Recognition 23, (1990) 485-497.
133. Eroglu, M.S., Topological representation for fuzzy topological spaces. National Mathematics Symp., Trabzon, 1987. J. Karadeniz Tech. Univ. Fac. Arts Sci. Seri. Math.-Phys. 11, 1988, 49-52.
134. Esogbue, A.O., Computational aspects and applications of a branch and bound algorithm for fuzzy multistage decision processes. 4th Inter. Workshop of the Bellman Continuum, Manhattan, KS, 1990. Comput. Math. Appl. 21(11-12), 1991, 117-127.
135. Esogbue, A.O., Fuzzy sets modelling and optimization as an aid to control systems planning. IFES'91, 863-876.
136. Eytan M., Fuzzy Sets: A Topological Point of View, FSS, 5, (1981) 47-67.
137. Fang, J.H., H.C. Chen, D Wright, A fuzzy expert system for thin-section mineral identification. In: Expert Systems in Exploration (F. Aminzadeh, M. Simaan, eds.), Geographical Development Series, Vol.3 Society of Exploration Geophysicists, Tulsa, Oklahoma, 1991.
138. Fath Alla, M.A., A note on fuzzy paracompact spaces. J. Inst. Math. Comput. Sci. Math. Ser. 3 2, 1990, 159-165.
139. Feder J., Plex Language , Infor. Sci., 3 (1971) 225-241.
140. Fermin Suarez Garcia, Pedro Gil Alvarez., Two Families of Fuzzy Integrals, FSS, 18 (1986),67-81.
141. Filep, L., I.G. Maurer, Fuzzy groups and groups of fuzzy elements. Fasc. Math. 19, 1990, 47-51.
142. Filev, D.P., R.R. Yager, A generalized defuzzification method via BAD distributions. Internat. J. Intelligent Systems 6(7),1991, 687-697.
143. Fishwick, P.A., Fuzzy simulation: specifying and identifying qualitative models. Internat. General Systems 19(3), 1991, 295-316.
144. Flikop, Z., Uncertainty and management of cellular telephone networks. IFES'91, 929-934.
145. Fora A. W., Separation Axioms for Fuzzy Spaces, FSS 33, (1989), 59-75.
146. Foster D. H., Fuzzy Topological Groups, JMAA 67, (1979), 549-564.
147. Friedman, M., A. Kandel, On the design of a fuzzy intelligent differential equation solver. FES, 203-212.
148. Fujishiro, I., Y. Shirai, Y. Ikebe, T. Kunii, The design of a graph-oriented schema for the management of individualized fuzzy data. Japanese J. Fuzzy Theory and Systems (English Translation of SOFT), 3(1), 1991, 1-14.
149. Fujiwara, Y., H. Genno, H. Kano, K. Fukushima, Image processing using fuzzy logic for a video print system. IFES'91, 1003-1012.
150. Fukuda, T., K. Shimojima, F. Arai, H. Matsuura, Multi sensor integration system with fuzzy inference and neural network applied for automated cutting system. IFES'91, 550-561.
151. Galluzzo, M., V. Cappellani, U. Garofalo, Fuzzy control of pH using NAL. Internat. Approximate Reasoning 5(6), 1991, 505-519.
152. Garg, M.L., S.I. Ahson, P.V. Gupta, A Fuzzy Petri net for knowledge representation and reasoning. Inform. Process. Lett. 39(3), 1991, 165-171.
153. Gasos, J., M.C. Garcia-Alegre, R. Garcia, Fuzzy strategies for the navigation of

- autonomous mobile robots. IFES'91, 1024-1034.
154. Ghose, B., Semicontinuous and semiclosed mapping and semi connectedness in fuzzy settings, FSS 35 (1990) 345- 355.
  155. Ghose. B., Semi Continuous and Semi Closed Mappings and Semi Connectedness, FSS, 35, (1990) 345-355.
  156. Ghosh, B., On  $\tau$ -equivalent and  $\tau$ -equivalent fuzzy topologies. Bull. Malaysian Math. Soc. (2),13(2),1990, 69-78.
  157. Giuculescu, A., A logical foundation of fuzziness for the application to human actions, IFES'91, 141-152.
  158. Goguen J. A., The Fuzzy Tychonoff Theorem, JMAA 43,(1973), 734-742.
  159. Golfarelli M., D. Maio, D. Maltoni, On error-reject trade-off in biometric verification system, IEEE Trans. Pattern and Mach. Intel. 19(7)(1997)786-796.
  160. Golfarelli M., D. Miao., D. Maltony., On Error-Reject Trade-off In Biometric Verification System, IEEE Trans. Pattern and Mach. Intel., 19(7), (1997), 786-796.
  161. Gottwald, S., Some observations and problems connected with fuzzy relation equations. Fasc. Math. 19, 1990, 87-92.
  162. Grabisch, M., M. Yoneda, S. Fukami, Subjective evaluation by fuzzy integral: the crisp and possibilistic case. IFES'91, 33-41.
  163. Grabisch, M., T. Murofushi, M. Sugeno, Fuzzy measure of fuzzy events defined by fuzzy integrals. SOFT. J. Japan Soc. Fuzzy Theory and Systems 3(3), 1991, 557-569.
  164. Grabot, B., O. Cazenave, A decision support system using fuzzy logic for the choice of abnormal operating models. In: Decision Support Systems and Qualitative Reasoning (Proc. of the IMACS Inter. Workshop on Decision Support Systems and Qualitative Reasoning, Toulouse, France, 13-15 March, 1991) (M.G. Singh, L. Trave-Massuyes, eds.), North-Holland, Amsterdam, 1991, 361-366.
  165. Gradenes, E., A. Trepas, H. Mielgo, Fuzzy semantics of modal intervals. Fasc. Math. 19, 1990, 63-76.
  166. Guerfali W., R. Plamondon, Normalizing and restoring on-line handwriting, Pattern Recognition 26(3) (1993) 419-431.
  167. Gulerman S. A., V.V. Rosentsveig, Algorithm For the Recognition of Handwriting Text, Automat. Remote Control, 37(5), (1976), 751-757.
  168. Guo, P., FRBS- A fuzzy rule-based scheduler. IFES'91, 941-946.
  169. Gupta, M.M., Cognitive uncertainty and perception. Fasc. Math. 19, 1990, 93-96.
  170. Guyan I., L. Schamaker, R. Plamondon, M. Liberman, Janet S., UNIPEN Project of On-line Data Exchange and Recognition Banchmarks, 13th IEEE-ICPR, Israel, (1994), 29-33.
  171. Guyon I., F. Pereira, Design of a Linguistic Post Processor Using Variable Memory Length Markov Models, Proc. 3rd ICDAR, Montreal Canada, Aug (1995), 454-457.
  172. Halim, M., K.M. Ho, A. Liu, An alternative approach in approximate reasoning using fuzzy production rules in expert systems. Internat. J. Pattern Recognition and Artificial Intelligence 5(3), 1991, 485-502.
  173. Hall, L.O., A. Kandel, The evolution from expert systems to fuzzy expert systems. FES, 3-21.
  174. Hall, L.O., A. Kandel, FESS: a reusable fuzzy expert system. FES, 181-193.
  175. Hashizume, M., T. Tamesada, H. Yoshihara, A practical solution using expertise knowledge of fuzzy multi-objective programming problems with lower satisfactory level



- constraints. IFES'91, 1059-1067.
176. Hawkes, L.W., S. J. Derry, A. Kandel, Fuzzy expert systems for an intelligent computer-based tutor. FES, 237-257.
177. Hayashi, I., E. Naito, N. Wakami, A proposal of fuzzy connective with learning function and its application to fuzzy information retrieval. IFES'91, 446-455.
178. Hayashi, Y., P.V. Krishnamraju, K.D. Reilly, Handling uncertainty and ambiguity in conventional and neural expert systems. IFES'91, 598-608.
179. Heilpern, S., Some representations of random sets. Fasc. Math. 19, 1990, 97-103.
180. Hirota, K., W. Pedrycz, Concepts formation: representation and processing issues. Special Issue on Uncertainty Management in Knowledge-Based Systems (B. Bouchon-Meunier, Gu. Ed.), Internat. J. Intelligent Systems 7(1), 1992, 3-13.
181. Hirota, K., W. Pedrycz, M. Yuda, Fuzzy set-based models of sensor fusion. IFES'91, 623-633.
182. Hohle U., Fuzzy Topologies and Topological Space Objects on Atopos, FSS, 19, (1986) 299-304.
183. Homenda, W., Fuzzy relational equations with cumulative composition operator as a form of fuzzy reasoning. IFES'91, 277-285.
184. Horikawa, S., T. Furuhashi, Y. Uchikawa, T. Tagawa, A study on fuzzy modeling using fuzzy neural networks. IFES'91, 562-573.
185. Hu J., A. S. Rosenthal, M.K. Brown, Combining High-Level Features with Sequential Local Features for On-line Handwriting Recognition, Proc. ICIAT'97, Florence, Sept(1997), 647-654.
186. Hu J., A.S. Rosenthal, M.K. Brown, Combining high-level features with sequential local features for on-line handwriting recognition, Proc. ICIAP'97, Florence, Sept 1997, 647-654.
187. Hu J., M.K. Brown, On-line Handwriting Recognition with Constrained n-best Decoding, Proc. 13th ICPR, Vienna, (1996)23-27.
188. Hu J., M.K. Brown, W. Turin, HMM Based On-Line Handwriting Recognition, IEEE PAMI, 18(10), (1996), 1039-1045.
189. Hu J., M.K. Brown, W. Turin, Use of Segmental Features in HMM Based Handwriting Recognition, Proc. IEEE SMC'95, Vancouver, Oct(1995), 2778-2782.
190. Huang, C.C., M.S. Ch'en, A fuzzy ranking method by the centers of fuzzy set. Internat. J. Inform. Management Sci. 1(2), 1990, 19-33.
191. Hudson, D.L., M.E. Cohen, M.F. Anderson, Approximate reasoning with IF-THEN-UNLESS rules in a medical expert system. Special Issue on Uncertainty Management in Knowledge-Based Systems (B. Bouchon-Meunier, Gu. Ed), Internat. J. Intelligent Systems 7(1), 1992, 71-79.
192. Hudson, D.L., M.E. Cohen, The role of approximate reasoning in a medical expert system. FES, 165-179.
193. Hutton B., Normalities in FTS, J. Math. Anal. Appl. 50, (1975) 74-79.
194. Ichikawa, M., H. Ito, Analysis of human behaviours and psychological responses during large earthquakes by fuzzy multifactorial evaluation method. IFES'91, 1068-1074.
195. Imasaki, N., J. Kiji, T. Endo, A fuzzy neural network and its application to elevator group control. IFES'91, 1126 -1127.
196. Iokibe, T., T. Kimura, H. Sasaki, Human friendly fuzzy transportation system. IFES'91, 1116-1117.

197. Ishibuchi, H., H. Tanaka, Determination of fuzzy regression models by neural networks. IFES'91, 523-534.
198. Ishigame, A., S. Kawamoto, T. Taniguchi, Stabilizing control based on fuzzy model for electric power systems. IFES'91, 836-843.
199. Ito, H.M., A. Wakayama, M. Hoshihara, D. Feng, M.A. Lin, fuzzy information processing system of seismic data. IFES'91, 919-928.
200. Itzkovich, I., A. Kandel, Machine visual perception based on symbolic two dimensional shape description. Inform. Sci. 59(3), 1992, part I: 213-243: part II: 245-277.
201. Ivanek, J., Representation of expert knowledge as a fuzzy axiomatic theory. Internat J. General Systems 20(1), 1991, 55-58.
202. Iwinski, T.B., Algebraic approach to rough sets, Bull. Pol. Ac. math. 35 (1987) 673-683.
203. Jahn, K.U., Semimorphisms in interval and fuzzy mathematics. Fasc. Math. 19, 1990, 105-112.
204. Juang, C.H., D.H. Lee, A fuzzy scale for measuring weights of criteria in hierarchical structures, IFES'91, 415-421.
205. Jumarie, G., A theory of information for vague concepts - Outline of application to approximate reasoning, Kybernetes 19 (4), 1990,15-34.
206. Kaciewicz, M., Shape prediction with a fuzzy uncertainty measure. Math. Geol. 23(3), 1991, 289-295.
207. Kacprzyk, J., Compatibility relations as a representation of if-then rules and their use in possibilistic inference. Fasc. Math. 19, 1990, 113-125.
208. Kacprzyk, J., Fuzzy linguistic quantifiers in decision making and control. IFES'91, 800-811.
209. Kajitani, y., K. Kuwata, R. Katayama, Y. Nishida, An automatic fuzzy modeling with constraints of membership functions and a model determination for neuro and fuzzy model by plural performance indices. IFES'91, 586-597.
210. Kaleva Osmo and Sepposeikkla, On Fuzzy Metric Spaces, FSS, 12, (1984) 215-229.
211. Kamel, M.S., S.Z. Selim, A thresholded fuzzy c-means algorithm for semi-fuzzy clustering. Pattern Recognition 24(9), 1991, 825-833.
212. Kanagawa, A., F. Tamaki, H. Ohta, Fuzzy control charts for linguistic data. IFES'91, 644-654.
213. Kang, H.S., S.W. Kim, M. Park, A study on the improvement of correctness of the electro-sphygmomanometer using fuzzy logic. IFES'91,655-660.
214. Karr, C.L., Design of a cart-pole balancing fuzzy logic controller using a genetic algorithm. Proc. of SPIE (Applications of Artificial Intelligence IX), Vol. 1468, 1991, 26-36.
215. Karr, C.L., Design of an adaptive fuzzy logic controller using a genetic algorithm. Proc. 4th Inter. Conf. on Genetic Algorithms, 1991, 450-457.
216. Katsaras A. K., and D.B. Liu, Fuzzy Vector Spaces and Fuzzy Topological Vector Spaces, JMAA 58, (1977), 135-146.
217. Katsaras A. K., Fuzzy Topological Vector Spaces-I, FSS, 6 (1981) 85-95.
218. Katsaras, A. K., Completeness in linear fuzzy neighbourhood spaces. Quaestiones Math. 14, 1991, 11-31.
219. Katsumata, A., H. Tokunaga, S. Yasunobu, Fuzzy set processor (FSP) for fuzzy information processing. IFES'91, 399-406.

220. Kaufmann A., Introduction to the Theory of Fuzzy Subsets, Academic Press, New York(1975).
221. Kawaji, S., T. Maeda, Fuzzy servo control system for an inverted pendulum. IFES'91, 812-823.
222. Kawamura, H., A. Tani, Y. Watari, M. Yamada, Fuzzy optimal adaptive control of seismic structures by maximizing decision. IFES'91, 673-683.
223. Kerre, E.E., P.L. Ottoy, On  $\alpha$ -generated fuzzy topologies. Fasc. Math.19, 1990, 127-134.
224. Kikuchi, H., Necessary and sufficient conditions for restrictions to be fuzzy switching functions. IFES'91, 91-102.
225. Kitamura, S., T. Kurozumi, Extended circle criterion, and stability analysis of fuzzy control systems. IFES'91, 634-643.
226. Klement V., K. Steine, R. Naske, The Application of Image Processing Pattern Recognition Techniques to Forensic Analysis of Handwriting, Proc. Int. Conf. Security Through Science and Engg. West Berlin,(1980), 5-11.
227. Klir G.J., T. Folger, Fuzzy Sets, Uncertainty and Information, Prentice Hall, Englewood Cliffs N. J. (1988).
228. Klir GeorgeJ., Bo Yuan, Fuzzy Sets and Fuzzy Logic Theory and Application, Prentice Hall of India Pvt. Ltd., New Delhi, India (1997).
229. Klir, G.J., Some applications of the principle of uncertainty invariance. IFES'91, 15-26.
230. Knopfmasher, On Measures and Fuzziness, JMAA 49, (1975), 529-534.
231. Knuje R., On the Entropy of Fuzzy Events, Cybernets 12, (1983),53-57.
232. Koczy, L.T., K. Hirota, A. Juhasz, Interpolation of 2 and 2k rules in fuzzy reasoning. IFES'91 206-217.
233. Koll, M., P. Srinivasan, Fuzzy versus probabilistic models for user judgements. J. Amer. Soc. Inform. Sci. 41(4), 1990, 264-271.
234. Kosko, B., Fuzzy associative memory systems. FES, 135-162.
235. Kotze, W., Quasi coincidence and quasi fuzzy Hausdorff spaces..., JMAA 116 (1986) 465-472.
236. Kruse P., On the Entropy of Fuzzy Events, Cybernets 12, (1983),53-57.
237. Kuchuck W., Writer Recognition by Spectra Analysis, Proc. Int. Conf. Security Through Science and Engg., West Berlin, (1980), 1-3.
238. Larsen, H.L., H. Nonfjall, Modeling in the design of a KBS validation system. Internat. Intelligent Systems 6(7), 1991, 759-775.
239. Lashgari, B., Fuzzy classification with applications to geophysical data. In: Expert Systems in Exploration (F. Aminzadeh, M. Simaan, eds.) Geophysical Development Series, Vol. 3, Society of Exploration Geophysicists, Yulsa, Oklahoma, 1991.
240. Lee E. T., Fuzzy tree automata and syntactic pattern recognition, IEEE-PAMI-4(4) 1982.
241. Lee E. T., L. Zadeh, Notes on Fuzzy Languages, Inform. Sci., 1, (1969), 421-432.
242. Lee J. S., O. J. Kwon, S. Y. Bang, Highly Accurate Recognition Of Printed Korean Characters Through an Improved Two-stage Classification method, pattern Recognition, 32, (1999), 1935-1945.
243. Lee Jin-Soo, Oh-Jun Know, Sung-Yang Bang, Highly accurate recognition of printed Korean characters through an improved two-stage classification method, Pattern

- Rocog. 32 (1999) 1935-45.
244. Lee, K.C., Fuzzy post-adjustment of knowledge-based solution. IFES'91, 471-481.
245. Liaw, C.M., J.B. Wang, Implementation of a fuzzy controller for a high performance induction motor drive. IEEE Trans. Systems man Cybernet.21(4), 1991, 921-929.
246. Lim, C.M., T. Hiyama, Application of fuzzy logic control to a manipulator. IEEE Trans. Robotics and Automation 7(5), 1991, 688-691.
247. Lin, L., Fuzzy linear system with diagonal superiority and some properties. IFES'91, 321-327.
248. Lin, Y., The concept of fuzzy systems. Kybernetes 19(3), 1990, 45-51.
249. Liu Huawen, Shi Kaiquan, Intuitionistic Fuzzy Numbers and Intuitionistic Distribution Number, The Journal of Fuzzy Mathematics vol.8, no 4 (2000), 909-918.
250. Loo S.G., Measures of Fuzziness, Cybernetica 20, (1979), 201-210.
251. Lopez de Mantaras, R., J. Agusti, E. Plaza, C. Sierra, MILORD: a fuzzy expert systems shell. FES, 213-223.
252. Lowen R., A Comparison of Difference Notions of Compactness in Fuzzy Topological Spaces, J. Math. Anal. Appl., 64, (1978), 446-454.
253. Lowen R., Connectedness in FTS, Rocky Mountain J. Math. 11(3), 1981, 427-433.
254. Lowen R., Convex Fuzzy Sets, FSS 3 (1980), 219-310.
255. Lowen R., Fuzzy Neighbourhood Spaces, FSS 7, (1982), 165-169.
256. Lowen R., Fuzzy Topological Spaces and Fuzzy Compact Spaces, J. Math. Anal. Appl. 56, (1976), 621-633.
257. Lowen, R., Convex Fuzzy Mapping, FSS (1980) 291- 310.
258. Lu, H., An application of fuzzy analysis in disintegration of whole personnel adventural mortgage funds. IFES'91, 1087-1090.
259. Luca A. De and S. Termini, A Definition of Non-probabilistic Entropy in the Setting of Fuzzy Set Theory, Inf. and Control 20, (1992), 301-312.
260. Luca A. De and S. Termini, Entropy of L Fuzzy Sets, Inf. and control 24, (1994), 53-73.
261. Luo, X., M.Li, Z. lei, Fuzzy rational choice. IFES'91, 122-126.
262. Maeda, A., R. Someya, M. Funabashi, A fuzzy-based expert system building tool. IFES'91, 1134-1135.
263. Maeda, H., Y. Ishitobi, Natural Language interface by optimization model for fuzzy database retrieval. Japanese J. Fuzzy Theory and Systems (English translation of SOFT), 3(1), 1991, 27-44.
264. Maeda, Y., M. Tanabe, M. Yuta, Demonstration of macro behaviour-decision on intelligent autonomous mobile robot. IFES'91, 1110-1111.
265. Maeda, Y., M.Tanabe, M Yuta, T. Takagi, Control purpose oriented behaviour-decision fuzzy algorithm with tuning function of fuzzy branch. IFES'91, 694-705.
266. Makamba, B.B., V. Murali, Normality and congruence in fuzzy subgroups. Inform. Sci. 59(1-2), 1992, 121-129.
267. Makhoul J., T. Starner, R. Scharz, G. Chou, On-line Cursive Handwriting Recognition Using Speech Recognition Method, Proc. IEEE ICASS'94, Adelaide, Australia, (1994), 125-128.
268. Makhoul J., T. Starner, R. Scharz, G. Chou, On-line cursive handwriting recognition using speech recognition method, Proc. IEEE ICASSP'94, Adelaide, Australia 1994 (125-128).

269. Malaviya A., H. Surmann, L. Peters, Automatic generation of fuzzy rule based for on-line handwriting recognition, Second EUFIT, Aachen 1994, 1060-1065.
270. Malaviya A., C. Leja, L. Peters, Multiscript Handwriting Recognition with FOHDEL, Proc. NAFIPS' 96, IEEE Press, Berkeley. (1996) 147-151.
271. Malaviya A., C. Leza, L. Peters, Manuscript handwriting recognition with FOHDEL, Proc. NAFIPS'96, IEEE Press Berkeley 1996, 147-151.
272. Malaviya A., L. Peters, Camposano, A Fuzzy On-Line Handwriting Recognition System: FOHRES, Second Int. Conf. Fuzzy Theory and Tech, Control and Decision, Durham NC 1993.
273. Malaviya A., L. Peters, Extracting Meaningful Handwriting Features with Fuzzy Aggregation Method, Third ICDAR, Montreal, (1995), 841-844.
274. Malaviya A., L. Peters, Extracting meaningful handwriting features with fuzzy aggregation method, Third ICDAR, Montreal 1995, 841-44.
275. Malaviya A., L. Peters, Fuzzy Feature Description of Handwriting Patterns, Pattern Recognition, 30(10), (1997), 1591-1604.
276. Malaviya A., L. Peters, M. Theissinger, FOHDEL: A New Fuzzy Language For On-Line Handwriting Recognition, FUZZ-IEEE Press, Orlando, (1994), 624-629.
277. Malaviya A., L.Peters, R. Camposano, A Fuzzy on-line handwriting recognition system: FOHRES, Second Int. Conf. Fuzzy Theory & Tech, Control and decision, Durham, NC 1993.
278. Mancini, V., W Bandler, Design for designing: fuzzy rational environmental design assistant (FREDA). FES, 195-202.
279. Mares, M., Algebra of fuzzy quantities. Internat. J. General Systems 20(1), 1991, 59-65.
280. Mashhour A.S., A. A. Alam, F.S. Mahmoud, F.H. Khedr, On Supra Topological Spaces, Indian Journal of Pure and Appl. Math., 14 (1983), 502-510.
281. Mashhour A.S., R. Badard and A.R. Randan, Fuzzy Pre-proximity Spaces, FSS 35, (1990), 123-126.
282. Mattila, J.K., Modelling fuzziness and Kripke structures. IFES'91, 889-900.
283. Melton, A., S. Sheno, Fuzzy relations and fuzzy relational databases. 4th Inter. Workshop of the Bellman Continuum, Manhattan, KS, 1990. Comput. Math. Appl. 21(11-12), 1991, 129-138.
284. Meredith, D.L., C.L. Karr, The use of genetic algorithms in the design of fuzzy logic controller. Proc. of the 2nd Workshop on Neural Networks (WNN-AIND 91), 1991, 695-702.
285. Mesiar, R., The Bayes principle and the entropy on fuzzy probability spaces. Internat. J. General Systems 20(1), 1991, 67-71.
286. Mincoff, N.C., G.R. Sotirov, L.V. Gerginov, An interactive approach to fuzzy optimization of metal cutting. IFES'91, 1075-1086.
287. Minge H.C., Fuzzy Topological Spaces, J. Math. Anal. Appl., 110, (1985), 141-178.
288. Miyajima, K., Nakayama M., H. Iwamoto, T. Norita, Top-down image processing using fuzzy reasoning. IFES'91, 983-994.
289. Miyamoto, S., N. Komishi, T. Miyake, Document retrieval and image retrieval based on fuzzy propositional index. Japanese J. Fuzzy Theory and Systems (English Translation of SOFT), 3(1), 1991, 15-26.
290. Miyamoto, S., T. Miyake, On fuzzy information retrieval. Japanese J. Fuzzy Theory

- and Systems (English Translation of SOFT), 3(1), 1991, 93-105.
291. Mizumoto M. et al., Some Consideration On Fuzzy Automata, *J. Comput. System Sci.* 3, (1969), 409-422.
292. Mukherjee M.N., B. Ghose, On Fuzzy S-Closed Spaces and FSC-Sets, *Bull. Malaysian Math. Soc. (2nd series)* 12, (1989) 1-14.
293. Mukherjee M.N., B. Ghose, Some Stronger Forms of Fuzzy Continuous on Mappings on Fuzzy TFS, *FSS*, 38, (1990), 375-387.
294. Mukherjee M.N., S.P. Sinha, Almost Compact Fuzzy Sets in FTS, *FSS*, 38 (1990), 389-396.
295. Mukherjee M.N., S.P. Sinha, On Some Near-Fuzzy Continuous Functions Between FTS, *FSS*, 34, (1990), 245-254.
296. Mockor, J., A category of fuzzy automata. *Internat. J. General Systems* 20(1), 1991, 73-82.
297. Morita, A., A. Noda, Fuzzy expert system for matching parameter setting. *IFES'91*, 456-460.
298. Mukherjee M.N and S.P. Sinha, On some Weaker Forms of Fuzzy Continuous and Fuzzy Open Mappings on Fuzzy Topological Spaces, *FSS* 32, (1989), 103-114.
299. Mukherjee M.N., S.P. Sinha, Almost Compact Fuzzy Topological Spaces, *Mathematica*, 41, (1989) 89-97.
300. Mukherjee, M. N., B. Ghosh, On fuzzy S-closed spaces and FSC sets. *Bull. Malaysian Math. Soc. (2)* 12(1), 1989, 1-14.
301. Nakamori, Y., K. Suzuki, T. Yamanaka, A new design of fuzzy model predictive control system for nonlinear processes. *IFES'91*, 788-799.
302. Nakayama, M., K. Miyajima, H. Iwamoto, T. Norita, Interactive human face retrieval system based on linguistic expression. *IFES'91*, 1108-1109.
303. Nala A. Di and S.G.A. Ventre, On Some Chains of Fuzzy Sets, *FSS* 4,(1980), 185-191.
304. Nanda S. and K. Kar, Convex Fuzzy Mapping, *FSS* 48 (1992) 157-160, MR 93a04002.
305. Nanda S., Fuzzy Algebras over Fuzzy Fields, *FSS* 37, (1990),99-103.
306. Nanda S., Fuzzy Fields and Fuzzy Linear Spaces, *FSS* 19 (1), (1986),89-94.
307. Nanda S., Fuzzy Linear Spaces over Valued Fields, *FSS* (to appear).
308. Nanda S., On Fuzzy Topological Spaces, *FSS*, 19 (1986), 193-197.
309. Nanda S., On Integration of Fuzzy Mappings, *FSS* 32 (1989) ,95-101.
310. Nanda S., On Sequence of Fuzzy Numbers, *FSS* 33, (1989), 99-109.
311. Nanda S., Strongly Compact Fuzzy Topological Spaces, *FSS* (to appear).
312. Nanda, S. and M. Panigrahi, Acomparison between IFS and generalized IFS, *J. Fuzzy Maths* 14(2) (2006) 407-421.
313. Nanda, S. and S. Majumdar, Fuzzy Rough Sets, *FSS* 45 (1992) 157-160, MR93a04002.
314. Nanda, S. and S. Pani, Fuzzy Variational Inequality and Complementarity Problem, *J. Fuzzy Maths* 11(2004), 231-235.
315. Nanda, S., Completely Connected Fuzzy Topological Space, *FSS* 53 (1993) 223-225, MR93m54017.
316. Nanda, S., Fuzzy Algebra over Fuzzy Fields, *FSS* 37 (1990) 99-103, MR 92e04007.
317. Nanda, S., Fuzzy Lattices, *Bull. Cal Math Soc* 81 (1989) 1-2, MR 1008612.

318. Nanda, S., Fuzzy linear Spaces Over Valued Fields, FSS 42(1991) 351-354, MR 92i15023.
319. Nanda, S., Fuzzy Modules over Fuzzy Rings, Bull.Cal.Math.Soc81(1989) 197-200, MR 90h 16048.
320. Nanda, S., G. Panda and J.K. Dash, A New Methodology for Crisp Equivalent of Fuzzy Chance Constrained Programming Problem, FODM, vol 7, 59-74, (2008).
321. Nanda, S., G. Panda and J.K. Dash, A new solution method for fuzzy chance constrained programming, FODM 5 (2006) 355-370.
322. Nanda, S., G. Panda and J.K. Dash, Chance Constrained Programming with Fuzzy Inequality Constraint, Opsearch, 45(1), 33-48, (2008).
323. Nanda, S., G. Panda and J.K. Dash, Generalized fuzzy fractional 0-1 programming, J. Fuzzy Maths (2006) 14 (3) 649-653.
324. Nanda, S., J.K. Dash and G. Panda, Chance constrained Programming Problems with different fuzzy distributions, IJOTMA, 2009.
325. Nanda, S., Principal Super Connected Fuzzy Topological Spaces, FSS 35 (1990) 397-399, MR91d54006.
326. Nanda, S., R Guha and R. N. Mohapatra, A note on Geometrical properties of fuzzy sets, Journal of Fuzzy Mathematics, 20 (1), (2012), 25-28.
327. Nanda, S., G. Panda and M. Panigrahi, Equivalence class in the set of fuzzy numbers and its applications in decision making problems, Int. J. Maths and Math Sciences (2006) 1-19.
328. Nathan K.S., H. S. M. Beigi, J. Subrahmonia, G.J. Clary, H. Maruyama, real-time on-line unconstrained handwriting recognition using statistical methods, Proc. IEEE ICASSP'95 Detroit (1995) 2619-2622.
329. Nathan S.K., H.S.M. Beigi, J. Subrahmonia, G.J. Clary, H. Maruyama, Real-Time On-Line Unconstrained Handwriting Recognition Using Statistical Methods, Proc. IEEE ICASS'95, Detroit, (1995), 2619-2622.
330. Nayak, P.C. and S. Nanda, Oscillation and Non-oscillation Theorem of the First and Second Order Fuzzy Differential Equation, J. Fuzzy Maths 3 (1995) 863-870.
331. Nola, A.D., W. Pedrycz, S. Sessa, Knowledge representation and processing in frame-based structures. IFES'91, 461-470.
332. Norwich A.M and I.B. Turkson, A Model for the Measurement of Membership and the Consequences of its Empirical Implementation, FSS 12, (1984), 1-25.
333. Novak, V., Fuzzy logic, fuzzy sets and natural languages. Internat. J. General Systems 20(1), 1991, 83-97.
334. Novak, V., J. Ramik, Mathematical Theory of vagueness in Czechoslovakia: a historical survey and bibliography. Internat. J. General Systems 20(1), 1991, 5-15.
335. Olej, V., J. Strelec, J. Chmurny, Analysis of deterministic, stochastic and fuzzy discrete systems by generalized Petri net. IFES'91, 230-238.
336. Osman M.T. Abu, On the Direct Product of Fuzzy Subgroups, FSS 72, (1984), 87-91.
337. Otani, M., E. Kitamura, T. Ashida, M. Kimura, H. Yubazaki, K. Hirota, 2-phase stepping motor driver based on fuzzy-logic control. IFES'91, 1130-1131.
338. Otto, K.N., E.K. Antonsson, Trade-off strategies in the solution of imprecise engineering design problems. IFES'91, 422-433.
339. Pal N. R. and S.K. Pal, Entropic thresholding, Signal Processing 16 (1989) 97-108.

340. Pal S. K., D.K. D. Majumder, Fuzzy Mathematical Approach to Pattern recognition, John Wiley, New York. (1986).
341. Pal S. K., Fuzzy Skeletonization of An Image, Pattern Recognition Letters, 10, (1989) 17-23.
342. Pal S.K and A. Ghosh, Fuzzy geometry in image analysis, Fuzzy sets and systems 18 (1992) 23-40.
343. Pal S.K. , R.A. King and A.A. Hashim, Automatic gray level thresholding through index of fuzziness, Pattern Recog. Letters 1 (1983) 141-146.
344. Pal S.K. , R.A. King and A.A. Hashim, Image description and primitive extraction using fuzzy sets, IEEE Trans System Man Cybernet 13 (1983) 94-100.
345. Pal S.K. and A. Rosenfeld, Image enhancement and thresholding by optimizing fuzzy compactness, Pattern Recog. Lett 7 (1988) 77-86.
346. Pal S.K. and N.R. Pal, Segmentation based on measure of contact, homogeneity and region size, IEEE Trans. System Man Cybernet 17 (1987) 857-868.
347. Pal S.K., A Rosenfeld, Image Enhancement and Thresholding by Optimizing Fuzzy Compactness, Pattern Recognition Letters, 7, (1988) 77-87.
348. Pal S.K., D..Dutta Majumdar, Fuzzy Mathematical Approach to Pattern Recognition, John Wiley, New York. (1986.). same as 140.
349. Pal S.K., Fuzzy Skeletonization of an image , Pattern Recog. Letters 10 (1989) 17-23.
350. Pal S.K., N.R. Pal, Segmentation Based on Measure of Contact, Homogeneity and Region Size,IEEE Trans. Systems Man Cybernet, 17, (1987), 857-868.
351. Pal S.K., R.A. King, A. A. Hashim, Automatic Gray Level Thresholding Through Index of Fuzziness, Pattern Recognition Letters, 1, (1983), 141-146.
352. Pal S.K., R.A. King, A. A. Hashim, Image Description and Primitive Extraction Using Fuzzy Sets, IEEE Trans. Systems Man Cybernet, 13 (1983), 94-100.
353. Panigrahi, M. and S. Nanda, Intuionistic Fuzzy Relations over Intuionistic Fuzzy sets, Journal of Fuzzy Math (2007) 15 (3)675-688.
354. Panigrahi, M., G. Panda and S. Nanda, Convex Fuzzy Mapping with Differentiability and its application in fuzzy Optimization, EJOR, vol 185, 47-62 (2008).
355. Panigrahi, M., S. Nanda and G. Panda, Generalized Ideals with triangular norms, J. Advanced Math. Studies. (2013).
356. Pawlak, Z, Rough Sets, basic notions, ICSPAS Rep., 436(1981).
357. Pawlak, Z, Rough Sets, power set hierarchy, ICSPAS Rep. 470 (1982).
358. Pawlak, Z. Rough Sets, Theoretical Aspects of Reasoning about data, Kluwer Academic Publishing, Dordrecht 1991.
359. Pawlak, Z. Some remarks on Rough Sets Bull. Pol. Ac. Tech 33 (1985).
360. Pawlak, Z., Rough Sets and Fuzzy Sets, FSS 17 (1985) 99- 102.
361. Pawlak, Z., Rough Sets, algebraic and topological approach, ICSPAS Rep. 482 (1982).
362. Pawlak, Z., Rough Sets, Int. J. Inf. Comp. Sc, 11 (1982) 341-356.
363. Pedrycz, W., G. Bortolan, R. Degani, Classification of electrocardiographic signals: a fuzzy pattern matching approach. Artificial Intelligence in Medicine 3(4), 1991.
364. Pedrycz, W., K. Hirota, T. Takagi, Fuzzy associative memories: concepts architectures and algorithms. IFES'91, 163-174.
365. Pedrycz, W., Neurocomputations in relation systems. IEEE Trans. Pattern Analysis



- and Machine Intelligence 13(3), 1991, 287-297.
366. Peng, X.T., A. Kandel, P.Z. Wang, Concepts, rules and fuzzy reasoning: a factor space approach. *IEEE Trans. Systems Man Cybernet.* 21(1), 1991, 194-205.
367. Perdu, D.M., A.H. Levis, A Petri net model for evaluation of expert systems in organizations. *Automatica* 27(2), 1991, 225-237.
368. Piasecki, K., Extension of fuzzy P-measures generated by means of a usual probability measure. *Fasc. Math.* 19, 1990, 197-202.
369. Piques, J.D., A framework for managing uncertainty in embedded expert systems. *Proc. of the Conf. IEEE/ACM Developing and managing Expert System Programs (DMESP)*, Washington, DC, Sept. 30-Oct. 2, 1991.
370. Pivert, O., Contribution a l'interrogation flexible de bases de donnees: expression et evaluation de requetes floues. *These de Doctorat, Universite de Rennes I*, Dec. 1991.
371. Plamondon R, G Lorette, Automatic Signature Verification and Writer-Identification. *The State of The Art, Pattern Recognition*, 22(2), (1989), 107-131.
372. Pomykala, J., J.A. Pomykala, The Stone algebra of rough sets. *Bull. Polish Acad. Sci. Math.* 36(7-8), 1988, 495-508.
373. Ponsard, C., Note on the ranking of fuzzy numbers: conditions for a total order relation. *Fasc. Math.* 19, 1990, 203-205.
374. Posta W., Detection of Linear Oblique Structures and Skew In Digitised Document, *Proc. ICPR'86*, (1986), 464-468.
375. Rabiner L.R., A Tutorial On Hidden Markov Models And Selected Applications In Speech Recognition, *Proc. IEEE*, 77(2), (1989), 257-286.
376. Rajashekharan M.S., B.L. Dekshatulu, Recognition of Printed Telugu Characters, *Comp Graphics Image Process*, 6, (1977).
377. Raju, G.V.S., J. Zhou, R.A. Kisner, Hierarchical fuzzy control. *Internat. J. Control.* 54(5), 1991, 1201-1216.
378. Ralascw D., and G. Adams, The Fuzzy Integral, *JMAA* 75, (1980), 562-570.
379. Ralescu D., Integration on Fuzzy Sets, *Indiana University*, Bloomington.
380. Ralescu, A., H. Narazaki, Integrating artificial intelligence techniques in linguistic modelling from numerical data. *IFES'91*, 328-337.
381. Ralescu, D.A., A. Ralescu, Fuzzy sets in statistical decision-making. *IFES'91*, 153-162.
382. Ramik, J., Vaguely interrelated coefficients in LP as a bicriterial optimization problem. *Internat. J. General Systems* 20(1), 1991, 99-114.
383. Regis Vescovi, M., La representation des connaissances et la raisonnement sur les systemes physiques. *These de Doctorat, Universite de Savoie, Chambéry*, June 1991.
384. Rhodes, P.C., S.M. Menani, Towards a fuzzy logic programming system: a fuzzy propositional logic. *Knowledge-Based Systems*, 4(1), 1991, 52-62.
385. Roadbaugh S. E., A Categorical Accommodation of Various Notions of Fuzzy Topology, *FSS*, 9, (1983) 241-265.
386. Rocha, A.F., F. Giorno, B. Leao, A. Theoto, The Physiology of the expert system. *FES*, 81-98.
387. Rocha, A.F., Fuzzy logics and neural nets: tools for expertise. *IFES'91*, 482-493.
388. Rosenfeld A. and A.C. Kak, *Digital picture processing*, Academic Press, New York 1982.
389. Rosenfeld A. and R. Klette, Degree of adjacency or surroundedness, *Technical*

- Report, Center for Automation Research, Univ. of Maryland, CAS, TR-53, CS-TR 1380, 1984.
390. Rosenfeld A. and S. Haber, The perimeter of a fuzzy set, *Pattern Recog.* 18 (1985) 125-130.
391. Rosenfeld A., A. C. Kak, *Digital Picture Processing*, Academic Press, New York, 1982.
392. Rosenfeld A., *Fuzzy digital topology*, *Inform and Control* 40(1979) 76-87.
393. Rosenfeld A., *Fuzzy Geometry In Image Subset*, *Pattern recognition Letters*, 2, (1984), 311-317.
394. Rosenfeld A., *Fuzzy Groups*, *JMAA* 35, (1971), 512-517.
395. Rosenfeld A., *On Connectivity Properties of Gray Scale Pictures* *Pattern Recognition*, 18, (1983), 47-50.
396. Rosenfeld A., *On connectivity properties of gray scale pictures*, *pattern recog.* 16 (1983) 47-50.
397. Rosenfeld A., R. Klette, *Degree Of Adjacency Or Surroundedness*, Technical Report, Center for Automation Research, Univ. of Maryland, CAS TR-53, CSTR 1380, (1984).
398. Rosenfeld A., Reinhard Klette, *Degree of Adjacency or Surroundness*, *Pattern Recognition*, 8 (1985), 169-177.
399. Rosenfeld A., S. Haber, *The Perimeter Of A Fuzzy Set*, *Pattern Recognition*, 18, (1985), 125-130.
400. Rosenfeld A., *The Diameter Of A Fuzzy Set*, *FSS*, 13, (1984), 241-246.
401. Rosenthal Amy S., J. Hu, M.K. Brown *Size and orientation normalization of on-line handwriting using Hough transform*, *Proc. ICASSP'97*, Munich, Germany, April 1997.
402. Rout Pravat, S Nanda and S Acharya, *Multi-objective Fuzzy Probabilistic Quadratic Programming Problems*, *International Journal of Operational Research*.
403. Rout, P. K., S. Nanda and S Acharya, *Computation of Multi-choice Multi-objective Fuzzy Probabilistic two stage Programming Problem*, *Int. J. of Computing Science and Mathematics*.
404. Rout, P.K., S Dutta, S Nanda and S Acharya, *Multi-choice Multi-objective Fuzzy Stochastic Transportation Problem*, *Opsearch*.
405. Rout, P.K., S Nanda and S Acharya, *Computation of Multichoice Multi-Objective Fuzzy Probabilistic Programming Problem*, *Global J Pure Appl Math* 11(6) 2015, 4663-4689.
406. Roy A.K. and B. Chatterjee, *Design of mearest neighbour classifier for Bengali character recognition*, *J. IETE* 30 (1984).
407. Roy A.K., B. Chatterjee, *Design of Neighbour For Bengali Character Recognition*, *J. IETE*, 30, (1984).
408. Ruspini, E.H., *On truth, utility and similarity*. *IFES'91*, 42-50.
409. S. Araki, H. Nomura, I. Hayashi, N. Wakami, *A self-generating method of fuzzy inference rules*. *IFES'91*, 1047-1058.
410. Said H.E.S., G.S. Peake, T. N. Tan, K.D. Baker, *Writer Identification Form Non-Uniformly Skewed Handwriting Images*, *Proc. British Machine Vision Conf BMVC 98*, Vol 2, (1998), 478-487.
411. Said H.E.S., G.S. Peake, T.N. Tan, K.D. Baker, *Writer identification from non-uniformly skewed handwriting images*, *Proc. British Machine Vision Conf BMVC 98*,

Vol 2, 1998, 478-487.

412. Sakawa, M., H. Yano, Interactive decision making for multi objective linear fractional programming problems with fuzzy parameters based on solution concepts incorporating fuzzy goals. *Japanese J. Fuzzy Theory and Systems (English Translation of SOFT)*, 3(1), 1991,45-62.
413. Sandri, S., *La combinaison de l'information incertaine et ses aspects algorithmiques. These de Doctorat, Universite P. Sabatier, Toulouse, Dec. 1991.*
414. Sasaki, T., M. Kosaka, Fuzzy pattern classification method of time series data. *IFES'91*, 197-205.
415. Schneider, M., A. Kandel, General purpose fuzzy expert systems. *FES*, 23-41.
416. Sen C.S., Fixed Point Theorems for Fuzzy Mappings, *FSS*, 17, (1985) 181-187.
417. Seselja, B., CEP and homomorphic images of algebras. *Univ. Novom Sadu Zb. Rad. Prirod, -Mat. Fak. Ser. Mat.* 19(2), 1989, 75-80.
418. Seselja, B., The fuzzy power of algebras. *Univ. Novom Sadu Zb. Rad. Prirod. -Mat. Fak. Ser. Mat* 19(2), 1989, 67-74.
419. Shao, S., N. Xiong, Representing and path planning in fuzzy environments. *IFES'91*, 741-747.
420. Shen, Z., L. Ding, M. Mukaidono, Concept structure and its fuzzy logical properties. *IFES'91*, 129-140.
421. Sherif Sami El-Dali, Rafat Ramsis and Aladin Kamel, A recognition system for printed arabic text, *Pattern Recog.* 23 (1990) 485-497.
422. Shigemasu, K., H. Sugawara, Measurement of subjective probability by means of membership function. *IFES'91*, 175-184.
423. Shimuzu, H., K. Suzuki, K. Miura, C.G. Alfafara, S. Shioya, K. Suga, Application of fuzzy control to a yeast fed-batch culture. *IFES'91*, 824-835.
424. Shteinbuk, V.B., A.P. Sostak, On semi groups of continuous transformations of fuzzily structured sets. *Semigroup Forum* 43, 1991, 135-145.
425. Sinden F., G. Wilfong, L. Ruedisueli, On-Line Recognition Of Handwriting Symbols, *IEEE Trans. PAMI*, 18(9), (1996).
426. Sinha R. K. M., H. Mahalala, Machine Recognition Of Devnagari Script, *IEEE Trans. Syatems Man Cybernet*, 9, (1997).
427. Sinha R. K. M., Rule Based Contextual Post-Processing Devnagari Text Recognition, *Pattern Recognition*, 20, (1987), 475-485.
428. Sinha R.K.M. and H. Mahalala, Machine recognition of Devnagari script, *IEEE Trans. System Man. Cybernet* 9 (1979).
429. Sinha S.P., Fuzzy Normality and Some of its Weaker Forms, *Bull. Korean Math. Soceity*, 28(1), (1991), 89-97.
430. Sinha, S.P., Fuzzy normality and some of its weaker forms. *Bull. Korean Math. Soc.* 28(1), 1991, 89-97.
431. Sirmoney G., R. chandrashekharan, M. chandrashekharan, Machine Recognition Of Printed Tamil Characters, *Pettern Recognition*, 10, (1978).
432. Smithson, M., FUZZYSTAT: fuzzy set software for behavioral and social sciences. *IFES'91*, 361-374.
433. Someya, R., A. Maeda, M Kosaka, Incorporation of fuzzy inference in expert systems and a fuzzy knowledge base building tool. *IFES'91*, 494-502.
434. Sosnowski, Z.A., A fuzzy extension of CLIPS rule-based shell. *IFES'91*, 503-512.

435. Stenbiss V., Sentence-Hypothesis Generation In A Continuous-Speech Recognition System, Proc. EURO SPEEch, 89, (1989), 51-54.
436. Sturtemant D., A stack decoder for continuous speech recognition, Proc. Speech and Natural Languages Workshop, Oct 1989, 193-198.
437. Styblinski, M.A., B.D. Meyer, Signal flow graphs vs. fuzzy cognitive maps in application to qualitative circuit analysis. *Internat. J. Man-Machine Studies* 35(2), 1991, 175-186.
438. Suarez Gracia F., and Alvarez P. Gill, Two Families Of Fuzzy Integrals, *FSS* 18, (1986), 67-81.
439. Sugeno M., M. Sasaki, L-Fuzzy Category, *FSS*, 11, (1983) 43-64.
440. Sugeno, M., T. Murofushi, J. Nishino, H. Miwa, Helicopter flight control based on fuzzy logic. *IFES'91*, 1120-1121.
441. Suzuki, K., Nakamori, Y., T. Yamanaka, An interactive support system for fuzzy modelling and fuzzy model predictive control system design. *IFES'91*, 1102-1103.
442. Suzuki, K., Y. Naka, K. Bito, Fuzzy multi-model control of a high-purity distillation system. *IFES'91*, 684-693.
443. Takagi, H., T. Kouda, Y. Kojima, Neural networks based on approximate reasoning architecture. *Japanese J. Fuzzy Theory and Systems (English translation of SOFT)*, 3(1),1991, 63-74.
444. Takagi, T., T. Yamaguchi, M. Sugeno, Conceptual fuzzy sets. *IFES'91*, 261-272.
445. Takagi, T.Y., S. Nakanishi, Pattern recognition based on the extraction of features by neural networks and fuzzy set theory. *IFES'91*, 515-522.
446. Takahashi, H., K. Ikeura, T.Yamamori, 5-speed automatic transmission installed fuzzy reasoning. *IFES'91*, 1136-1137.
447. Takata, K., Signature identification system using a fuzzy template. *IFES'91*, 1124-1125.
448. Takeyama, Y., Ide, K., M. Yamamoto, J. Itoh, F. Nishiuchi, FRUITAX, MICREX fuzzy controller, and its application to fuzzy hunting. *IFES'91*, 1128-1129.
449. Tamano, K., Optical fuzzy inference system. *Japanese J. Fuzzy Theory and Systems (English Translation of SOFT)*, 3(2), 1991, 382-386.
450. Tanabe, M., Y Maeda, M Yuda, T Takagi, Path planning method for mobile robot using fuzzy inference under vague information of environment. *IFES'91*, 758-769.
451. Tanaka, H., H. Ishibuchi, Normal possibility distribution and its application. *IFES'91*, 51-59.
452. Tano, S., H. Yuize, T. Yagy, M. Yoneda, Y. Katoh, S. Fukami, M. Grabisch, FOREX: foreign exchange trade support expert system. *IFES'91*, 1114-1115.
453. Terai, I., S. Abe, S. Kondoh, Y. Hara, S. Simada, S. Yamaguchi, T. Tanaka, Application of fuzzy logic technology to home appliances. *IFES'91*, 1118-1119.
454. Terano, T., S. Mause, T. Hara, H. Sugiura, K. Yamauchi, Linguistical expression of image using fuzzy logic. *IFES'91*, 995-1002.
455. Togai, M., A. Hatada, S. Tate, The automated rulebase generation tool: TILGen. *IFES'91*, 1122-1123.
456. Togai, M., H. Watanabe, Expert system on a chip: an engine for approximate reasoning. *FES*, 259-274.
457. Tokunaga, H., Fuzzy computer prototype system FUTURE BOARD system. *IFES'91*, 1106-1107.

458. Toth H., Categorical Properties of Fuzzy Set Theory, FSS 33, (1989), 99-109.
459. Triantaphyllou, E., P.M. Pardalos, S. H. Mann, The problem of determining membership values in fuzzy sets in real world situations. In: Operations Research and Artificial Intelligence: The Integration of Problem-Solving Strategies (D.E. Brown, C.C. White III, eds.), Kluwer Academic Publ., Dordrecht-Boston, 1990, 197-214.
460. Trillas E. and T. Rieza, Entropies in Finite Fuzzy Sets, Inf. Sc. 15, (1978), 159-168.
461. Tseng, T.Y., C.M. Klein, A new algorithm for fuzzy multicriteria decision making. Internat. J. Approximate Reasoning 6(1), 1992, 45-66.
462. Turksen, I.B., S. Jian, Single antecedent rule base restructuring and search based on S-implication-fuzzy cluster analysis. IFES'91, 218-229.
463. Turksen, I.B., Y. Tian, Bounds on multiple antecedent fuzzy S-implications and reasoning. IFES'91, 185-196.
464. Turunen, E., A note on Pavelka's fuzzy logic. Zeitschr. Math. Logik Grundlagen Math. 37, 1991, 39-40.
465. Turunen, E., Residuated lattices in fuzzy logical systems. IFES'91, 60-69.
466. Uehara, K., M. Fujise, Learning algorithm for multi-stage fuzzy inference by back-propagating error information. IFES'91, 1035-1046.
467. Uemura, Y., A decision rule on fuzzy events. IFES'91, 965-970.
468. Umamo, M., S. Fukami, Perspectives of fuzzy databases. Japanese J. Fuzzy Theory and Systems (English Translation of SOFT), 3(1), 1991, 75-91.
469. Umamo, M., Y. Ezawa, Implementation of backward fuzzy reasoning in fuzzy production system. IFES'91, 910-918.
470. Vachkov, G., Rule based fuzzy modelling of complex systems. IFES'91, 853-862.
471. Vojvedic, G., B. Seselja, Subalgrbras and congruences via diagonal relation. Proc. of the Conf. on Algebra and Logic, Sarajevo, 1987, Univ. Novi Sad, Novi Sad, 1989, 169-177.
472. Vojvedic, G., B. Seselja, The diagonal relation in the lattice of weak congruences and the representation of lattices. Univ. u Novom Sadu Zb. Rad. Prirod.-Mat. Fac. Ser. Mat. 19(1), 1989, 167-178.
473. Wang C.K., Covering Properties of FTS, JMAA 43, (1973) 697-704.
474. Wang C.K., Fuzzy Points and Local Properties of Fuzzy Topology, JMAA 46, (1974).
475. Wang C.K., Fuzzy Topology, Product and Quotient Theorems, JMAA 45, (1974).
476. Wang P.Z., H.M. Zhang, X.W. Ma, W. Xu, Fuzzy set-operations represented by falling shadow theory. IFES'91, 82-90.
477. Wang Zi-Xiao, Fuzzy Measures and Measures of Fuzziness, J. Math. Anal. Appl. 104, (1984) 589-601.
478. Wang, C.C., S.H. Chen, Solving decision problems with multi-judge under multi-criteria by fuzzy method - A personnel selecting problem. IFES'91, 947-952.
479. Wang, F.A., T. Chen, Membership functions related to time effects and their applications in analysis of structural reliability. IFES'91, 901-909.
480. Wang, G.Y., D. Y. Tan, Fuzzy random programming. IFES'91, 409-414.
481. Wang, M.J.J., J. Sharit, C.G. Drury, Fuzzy evaluation of inspection performance. Internat. J. Man-Machine Stud. 35(4), 1991, 587-596.
482. Wang, X., M. Ha, An approximate method of solving the system of fuzzy linear equations. IFES'91, 273-276.

483. Wang, Y., The fuzzy neural network system for diagnosing silicosis. IFES'91, 546-549.
484. Wang-Jin Liu, Fuzzy Invariant Subgroups and Fuzzy Ideals, FSS 8, (1982), 133-139.
485. Wang-Jin Liu, Operations on Fuzzy Ideals, FSS 11, (1982) 31-41.
486. Ward, T.L., P.A.S. Ralston, W. Karwowski, W.D. Hall, ITONUS: expert system for matching on a lathe. J. Intelligent Manufacturing 2, 1991, 353-363.
487. Warren R.H., Convergence in Fuzzy Topology, Rocky Mountain J Math. 13(1), (1983), 31-36.
488. Wasaki, T., A. Morita, Fuzzy auto-tuning method with hierarchical operations and its application to motor control. IFES'91, 780-787.
489. Watanabe, H., Some consideration on design of fuzzy information Processors- From a computer architectural point of view. IFES'91, 387-398.
490. Weber S., Measures of Fuzzy Sets and Measures of Fuzziness, FSS 13, (1984), 247-271.
491. Whalen, T., B. Schott, Fuzzy linguistic inference network generator. FES, 113-123.
492. Wiweger, A., On topological rough sets. Bull. Polish Acad. Sci. Math. 37(1-6), 89-93.
493. Wong C.K., Covering Properties of FTS, J. Math. Anal. Appl. 43, (1973), 697-704.
494. Wong C.K., Fuzzy Topology: Product and quotient Theorems, J. Math. Anal. Appl. 45, (1974), 512-521.
495. Wong, F., P.Z. Wang, A fuzzy neural network for forex rate forecasting. IFES'91, 535-545.
496. Wood, K.L., E.K. Antonsson, Modelling imprecision and uncertainty in preliminary engineering design. Mechanism and machine Theory 25(3), 1990, 305-324.
497. Wood, K.L., K.N. Otto, E.K. Antonsson, A formal method for representing uncertainties in engineering design. Proc. of the 1st Inter. Workshop on Formal Methods in Engineering Design (P. Fitzhorn, ed.), Colorado State University, Fort Collins, CO, January 1990, 202-246.
498. Wood, K.L., K.N. Otto, E.K. Antonsson, Engineering design calculation under uncertainty . IFES'91, 434-445.
499. Wu Wang-ming, Normal Fuzzy Subgroups, Fuzzy Maths. 1, (1981), 21-30.
500. Wygralak, M., On the power of a rough set. Fasc. Math. 19, 1990, 251-253.
501. Xiaodong Z., Connectedness in Fuzzy Topological Spaces, FSS, 20, (1986), 223-240.
502. Xie, X.L., G. Beni, A validity measure for fuzzy clustering. IEEE Trans. Pattern Analysis and Machine Intelligence 13(8), 1991, 841-847.
503. Xu, C.W., On convexity of fuzzy sets and fuzzy relations. Inform. Sci. 59(1-2), 1992, 91-102.
504. Xu, L.D., A computational approach to database retrieval in natural language. IFES'91, 338-345.
505. Xu, X. Q., Sheaf structures of N-compact sets and fuzzy Wallace theorem. Chinese Sci. Bull. 35(13), 1990, 1063-1066.
506. Xu, X.Q., L-fuzzy perfect mappings. Chinese Sci. Bull. 35(13), 1990, 1067-1071.
507. Yadvac, H. T., Fuzzy Sets and functions on fuzzy spaces, JMAA 126(1987) 409-423.
508. Yager R.R., A Note on Probabilities of Fuzzy Events, Infor. Sci. 15, (1979), 113-129.
509. Yager R.R., On The Theory of Bags, International Journal of General Systems, Vol. 13, 1986, pp. 23-37.

510. Yager, R.R., A general approach to rule aggregation in fuzzy logic control. Tech. Report # MII-1208, Iona College, Machine Intelligence Institute, New Rochelle, NY 10801, 1991.
511. Yager, R.R., An alternative procedure for the calculation of fuzzy logic controller values. *SOFT, J. Japan Soc. Fuzzy Theory and Systems* 3(4), 1991, 112-122.
512. Yager, R.R., Deductive approximate reasoning systems. *IEEE Trans. on Knowledge and Data Engineering* 3(4), 1991, 399-414.
513. Yager, R.R., Filev, D.P., On the issue of defuzzification and selection based on a fuzzy set. Tech. Report # MII-1201, Iona College, Machine Intelligence Institute, New Rochelle, N.Y. 10801, 1991.
514. Yager, R.R., Filev, D.P., SLIDE: a simple adaptive defuzzification method. Tech. Report # MII-1207, Iona College, Machine Intelligence Institute, New Rochelle, N.Y. 10801, 1991.
515. Yager, R.R., Fuzzy quotient operators for fuzzy relational data bases. *IFES'91*, 289-296.
516. Yager, R.R., H.L. Larsen, On discovering potential inconsistencies in validating uncertain knowledge bases by reflecting on the input. *IEEE Trans. Systems man Cybernet.* 21(4), 1991, 790-801.
517. Yager, R.R., On the representation of relational production rules in expert systems. *FES*, 55-67.
518. Yamaguchi, T., K. Goto, K. Doya, Y. Mizoguchi, M. Yoshida, T. Mita, Helicopter hovering flight and circle flight operated by fuzzy associative memory system. *IFES'91*, 1112-1113.
519. Yamaguchi, T., K. Goto, M. Yoshida, Y. Mizoguchi, T. Mita, Fuzzy associative memory system and its application to a helicopter control. *IFES'91*, 770-779.
520. Yamamoto S., Y. Inoue, S. Yasunobu, Object-oriented approaches for fuzzy information processing. *IFES'91*, 375-386.
521. Yamamoto, Y., Fuzzy threshold function and its application. *IFES'91*, 103-114.
522. Yamashita, H., K. Nishimura, Y. Ito, Y. Katsumata, E. Tsuda, S. Shimizu, Sociogram analysis system applying fuzzy graphs, *IFES'91*, 935-940.
523. Yao, J.T.P., H.G. Natke, Uncertainties in structural identification and control. *IFES'91*, 844-849.
524. Yasui, K., H Itoh, Fuzzy control methods for path velocity correction *IFES'91*, 748-757.
525. Yeh, E.C., T.Y. Lin, A fuzzy control scheme for hydraulic cylinder servo with flow compensation. *IFES'91*, 661-672.
526. Yen, J., Computing generalized belief functions for continuous fuzzy sets. *Internat. J. Approximate Reasoning* 6(1), 1992, 1-31.
527. Yokogawa, T., A. Nukuzuma, Multi-paradigm reasoning for action planning. *IFES'91*, 1104-1105.
528. Yokogawa, T., T. Sakurai, A. Nukuzuma, T. Takagi, S. Kobayashi, Language instruction understanding by representing situations at abstract layers using case-based reasoning. *IFES'91*, 346-357.
529. You Chang Z., Fuzzy Path and Fuzzy Connectedness, *FSS*, 14 (1984) 273-280.
530. Yuize, H., T. Yagyu, M. Yoneda, Y. Katoh, S. Tano, M. Grabisch, S. Fukami, Decision support system for foreign exchange trading- Practical implementation *IFES'91*,

- 971-982.
531. Zadeh L.A., Fuzzy Sets as Basis for a Theory of Possibility, FSS1, (1978), 3-28.
532. Zadeh L.A., Fuzzy Sets, Information and Control 8 (1965), 338-353.
533. Zadeh L.A., Probability measures of fuzzy events, J. Math. Anal. Appl. 23, (1965), 421-427.
534. Zadeh, L.A., The calculus of fuzzy if-then rules. IFES'91, 11-12.
535. Zeleny, M., Cognitive equilibrium: a knowledge-based theory of fuzziness and fuzzy sets. Internat. J. General Systems 19(4), 1991, with discussions by Dubois, D., Prade, H.,: 383-386; by Lowen R.: 387-393; by Kohout, L.J.: 395-424; by Smithson, J.: 425-433; and a reply by Zeleny, M.: 435-440.
536. Zemankova, M., Plausible reasoning and learning in intelligent information systems. IFES'91, 297-308.
537. Zheng, Chong-you, Fuzzy paths and fuzzy connectedness, FSS 14 (3) (1984) 273-280.
538. Zimmermann H.J., Fuzzy Set Theory and its Application, Kluwer, Boston, (1985).
539. Zimmermann, H.J., Fuzzy control in automotive engineering. IFES'91, 730-740.
540. Zimmermann, K., Fuzzy set covering problem. Internat. J. General Systems 20(1), 1991, 127-131.
541. Zin L. W., Singular Homology Groups of FTS, FSS, 15, (1985) 199-207.