

Department of Mathematics
Indian Institute of Technology Delhi
List of publications in 2021

Journals

1. Basak, Biplab; Binjola, Manisha Lower bounds for regular genus and gem-complexity of PL 4-manifolds with boundary. *Forum Math.* 33 (2021), no. 2, 289–304.
2. Kartikay Gupta, Niladri Chatterjee. Stocks Recommendation from Large Datasets using Important Company and Economic Indicators. *Asia-Pacific Financial Markets*, Vol 28, pp 667-689, Springer.
3. Alok Nikhil Jha, Niladri Chatterjee, Geetam Tiwari. A Performance Analysis of Prediction Techniques for Impacting Vehicles in Hit-and-Run Road Accidents. *Accident Analysis and Prevention*, Elsevier, Vol. 157, 106164, 2021.
4. Aayush Singha Roy, Niladri Chatterjee. Forecasting of Indian stock market using Rough Set and Fuzzy-Rough Set based Models.
5. IETE Technical Review. Taylor and Francis. August 2021.
6. Dasgupta, Aparajita; Ruzhansky, Michael Correction to: Eigenfunction expansions of ultradifferentiable functions and ultradistributions. III. Hilbert spaces and universality. *J. Fourier Anal. Appl.* 27 (2021), no. 4, Paper No. 65, 1 p.
7. Dasgupta, Aparajita; Ruzhansky, Michael Eigenfunction expansions of ultradifferentiable functions and ultradistributions. III. Hilbert spaces and universality. *J. Fourier Anal. Appl.* 27 (2021), no. 2, Paper No. 15, 29 pp.
8. Dasgupta, Aparajita; Kumar Nayak, Santosh; Wong, M. W. Hilbert-Schmidt and trace class pseudo-differential operators and Weyl transforms on the affine group. *J. Pseudo-Differ. Oper. Appl.* 12 (2021), no. 1, Paper No. 11, 19 pp.
9. Barequet, Gill; De, Minati; Goodrich, Michael T. Convex-straight-skeleton Voronoi diagrams for segments and convex polygons. *Algorithmica* 83 (2021), no. 7, 2245–2272.
10. Sharma, Nitu; Pasricha, Puneet; Selvamuthu, Dharmaraja Valuation of equity-indexed annuities under correlated jump-diffusion processes. *J. Comput. Appl. Math.* 395 (2021), Paper No. 113575, 14 pp.
11. Nitu Sharma, S. Dharmaraja and Viswanathan Arunachalam: A Time Series Framework for Pricing Guaranteed Lifelong Withdrawal Benefit, *Computational Economics*, 58 (2021) pp. 1225–1261.
12. K. Ravi Kumar, Kavya Dashora, Naveen Krishnan, S. Sanyal, Hukum Chandra, S. Dharmaraja, Vandita Kumari: Feasibility Assessment of Renewable Energy Resources for Tea Plantation and Industry in India - A Review, *Renewable & Sustainable Energy Reviews (RSER)*, 145, July 2021, 111083.
13. Vandita Kumari, Hukum Chandra, Kaustav Aditya, K Ravi Kumar, Kavya Dashora, Naveen Krishnan, S Sanyal, S. Dharmaraja and Shantanu Kumar: Feasibility study on renewable energy system in tea (*Camellia sinensis*) estates of North-East India, *Indian Journal of Agricultural Sciences*, 91 (11) (2021) pp. 1631-1635.
14. S. Dharmaraja and Puneet Pasricha: A Markov Regenerative Process with Recurrence Time and its Application, *Financial Innovation* 7, Article number: 37 (2021)

15. Gautam Choudhaury, Priyanka Kalita and S. Dharmaraja: Analysis of a model of batch arrival single server queue with random vacation policy, *Communications in Statistics – Theory and Methods*, 50(22) (2021) pp. 5314–5357.
16. Guglielmo D’Amico, Raimondo Manca, Filippo Petroni and S. Dharmaraja: On the computation of some interval reliability indicators for semi-Markov systems, *Mathematics*, 9(5) (2021) 575, 23 pages.
17. Berchio,E; Falocchi,A; Ferrero, A; Ganguly,D: On the first frequency of reinforced partially hinged plates. *Commun. Contemp. Math.* 23 (2021), no. 3, Paper No. 1950074, 37 pp.
18. Biswas, Biswarup; Kumar, Harish; Yadav, Anshu Entropy stable discontinuous Galerkin methods for ten-moment Gaussian closure equations. *J. Comput. Phys.* 431 (2021), Paper No. 110148, 23 pp.
19. Kumar, Manoj; Kumar, N. Shraavan Convolution structures for an Orlicz space with respect to vector measures on a compact group. *Proc. Edinb. Math. Soc. (2)* 64 (2021), no. 1, 87–98.
20. Lal, Rattan; Shraavan Kumar, N. Weakly almost periodic and uniformly continuous functionals on the Orlicz Figà-Talamanca Herz algebras. *Bol. Soc. Mat. Mex. (3)* 27 (2021), no. 1, Paper No. 21, 12 pp.
21. Patra, Suchismita; Srinivas Kumar, V. V. K. A local min-orthogonal based numerical method for computing multiple coexisting solutions to cooperative p -Laplacian systems. *Appl. Numer. Math.* 169 (2021), 221–242.
22. Patra, Suchismita; Rajashekar, Naraveni; Srinivas Kumar, V. V. K. Approximation of the first eigenpair of the $p(x)$ -Laplacian using WEB-spline based mesh-free method. *Eng. Anal. Bound. Elem.* 131 (2021), 269–279.
23. Gupta, Lipsy; Kundu, S. Cofinal completeness vis-à-vis hyperspaces. *Rev. R. Acad. Cienc. Exactas Fís. Nat. Ser. A Mat. RACSAM* 115 (2021), no. 2, Paper No. 82, 18 pp.
24. Gupta, Lipsy; Kundu, S. Cofinal completion vis-à-vis Cauchy continuity and total boundedness. *Topology Appl.* 290 (2021), Paper No. 107576, 12 pp.
25. Goel, Anubha; Mehra, Aparna Robust omega ratio optimization using regular vines. *Optim. Lett.* 15 (2021), no. 6, 2067–2108.
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28. Sehgal, Ruchika; Mehra, Aparna Robust reward-risk ratio portfolio optimization. *Int. Trans. Oper. Res.* 28 (2021), no. 4, 2169–2190.
29. Singh, Anjali; Gupta, Anjana; Mehra, Aparna Best criteria selection based PROMETHEE II method. *Opsearch* 58 (2021), no. 1, 160–180.
30. Mehandiratta, Vaibhav; Mehra, Mani; Leugering, Gunter; Optimal control problems driven by time-fractional diffusion equations on metric graphs: optimality system and finite difference approximation. *SIAM J. Control Optim.* 59 (2021), no. 6, 4216–4242
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32. Singh, Abhishek Kumar; Mehra, Mani Wavelet collocation method based on Legendre polynomials and its application in solving the stochastic fractional integro-differential equations. *J. Comput. Sci.* 51 (2021), 101342, 11 pp.

33. Mehendiratta, Vaibhav; Mehra, Mani; Leugering, Günter Existence results and stability analysis for a nonlinear fractional boundary value problem on a circular ring with an attached edge: a study of fractional calculus on metric graph. *Netw. Heterog. Media* 16 (2021), no. 2, 155–185
34. Shukla, Ankita; Mehra, Mani Spectral graph wavelet regularization and adaptive wavelet for the backward heat conduction problem. *Inverse Probl. Sci. Eng.* 29 (2021), no. 4, 457–488.
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37. Mehendiratta, Vaibhav; Mehra, Mani; Leugering, Günter Fractional optimal control problems on a star graph: optimality system and numerical solution. *Math. Control Relat. Fields* 11 (2021), no. 1, 189–209.
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41. Nagar, Anima; Singh, Manpreet Strongly rigid flows. *Topology Appl.* 302 (2021), Paper No. 107840, 12 pp.
42. Panda, B. S.; Chaudhary, Juhi Dominating induced matching in some subclasses of bipartite graphs. *Theoret. Comput. Sci.* 885 (2021), 104–115.
43. Panda, B. S.; Goyal, Pooja; Pradhan, D. Differentiating-total domination: approximation and hardness results. *Theoret. Comput. Sci.* 876 (2021), 45–58.
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47. Sanjay Kumar, Lakshay Singhla, Kshitij Jindal, Khyati Grover, B. S. Panda: IM-ELPR: Influence maximization in social networks using label propagation based community structure. *Appl. Intell.* 51(11): 7647-7665 (2021).
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51. Kamana Porwal and Pratibha Shakya. A finite element method for an elliptic optimal control problem with integral state constraints, *Applied Numerical Mathematics*, 169 (2021), pp. 273–288.
52. Krithika, R.; Rai, Ashutosh; Saurabh, Saket; Tale, Prafullkumar Parameterized and exact algorithms for class domination coloring. *Discrete Appl. Math.* 291 (2021), 286–299.
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74. Singla, Sahil; Tiwari, Apurv; Tripathi, Amitabha Some results on the spum and the integral spum of graphs. *Discrete Math.* 344 (2021), no. 5, Paper No. 112311, 13 pp.
75. Edgar Federico Elizeche & Amitabha Tripathi, Proportionally modular numerical semigroups generated by arithmetic progressions, *Semigroup Forum* 103, Issue 3 (2021), 829--847.
76. Edgar Federico Elizeche & Amitabha Tripathi, A note on integers that are uniquely expressible by integral geometric sequences, *Integers: Electronic Journal of Combinatorial Number Theory* 21}, Article A123 (2021), 3 pages.
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Conference and workshop proceedings

1. B. S. Panda, Pooja Goyal: Hardness Results of Global Roman Domination in Graphs. CALDAM 2021: 500-511.
2. Pooja Goyal, B. S. Panda: Hardness Results of Connected Power Domination for Bipartite Graphs and Chordal Graphs. COCOA 2021: 653-667.
3. Pooja Goyal, B. S. Panda: Hardness and Approximation Results of Roman $\{3\}$ -Domination in Graphs. COCOON 2021: 101-111.
4. Andreas Emil Feldmann, Ashutosh Rai: On Extended Formulations For Parameterized Steiner Trees. 16th International Symposium on Parameterized and Exact Computation IPEC 2021: 18:1-18:16.
5. Rao, S. Chandra Sekhara; Kamra, Rabia A computational technique for parallel solution of diagonally dominant banded linear systems, In: Proc. IEEE International Conference on High Performance Computing, Data, Analytics (HiPC 2021), pp. 448-453.
6. Niladri Chatterjee, Raksha Agarwal. DEPSYM: A Lightweight Syntactic Text Simplification Approach using Dependency Trees. Proceedings of the First Workshop on Current Trends in Text Simplification (CTTS 2021), CEUR Workshop Proceedings (CEUR-WS.org), pp 42-56.
7. Raksha Agarwal, Niladri Chatterjee. Gradient Boosted Trees for Identifying Complex Words in Context. Proceedings of the First Workshop on Current Trends in Text Simplification (CTTS 2021), CEUR Workshop Proceedings (CEUR-WS.org), pp 12-28.
8. Radha Mogla, C. Vasanthlaxmi and Niladri Chatterjee. Systematic Approach for English-Hindi Parallel Database Creation for Transliteration of General Domain English Words. 4 th IEEE IAS GUCON 2021.
9. Raksha Agarwal and Niladri Chatterjee. Linguistic Feature Based Modelling for Lexical Complexity. Proceedings of the 15th International Workshop on Semantic

Evaluation (SemEval-2021), pages 120–125, 2021. Association for Computational Linguistics.

10. Ankit Kumar, Naman Jhunjhunwala, Raksha Agarwal and Niladri Chatterjee. Identification of Misinformation in COVID-19 Tweets Using BERTweet. Proceedings of the 4th NLP4IF Workshop on NLP for Internet Freedom, pages 99–103, ACL 2021
11. Raksha Agarwal and Niladri Chatterjee. Predicting Gaze Behaviour using Linguistic Features and Tree Regressors. Proceedings of the Workshop on Cognitive Modeling and Computational Linguistics, pages 79–84, ACL 2021.
12. Shivani Choudhary, Kushagri Tandon, Raksha Agarwal and Niladri Chatterjee. Prediction of Eye-Tracking Features using BERT Embeddings and Linguistic Features. Proceedings of the Workshop on Cognitive Modeling and Computational Linguistics, pages 114–119. ACL.