
HACETTEPE JOURNAL OF MATHEMATICS AND STATISTICS

Volume 53 Issue 1 (2024)

E-ISSN: 2651-477X

Honorary Editor

Lawrence Michael Brown

Editor in Chief

Mathematics

Murat Diker (Hacettepe University, Mathematics - hjms@hacettepe.edu.tr)

Statistics

Nursel Koyuncu (Hacettepe University, Statistics - statisticshjms@gmail.com)

Associate Editors

Derya Ersel (Hacettepe University, Statistics - dtektas@hacettepe.edu.tr)

Yasemin Kayhan Atilgan (Hacettepe University, Statistics - ykayhan@hacettepe.edu.tr)

Production Editors

Talha Arıkan (Hacettepe University, Mathematics - tarikan@hacettepe.edu.tr)

İsmail Aslan (Hacettepe University, Mathematics - ismail-aslan@hacettepe.edu.tr)

Berke Kaleboğaz (Hacettepe University, Mathematics - bkuru@hacettepe.edu.tr)

Özge Karadağ Ataş (Hacettepe University, Statistics - ozgekaradag@hacettepe.edu.tr)

Uğur Sert (Hacettepe University, Mathematics - usert@hacettepe.edu.tr)

O. Oğulcan Tuncer (Hacettepe University, Mathematics - otuncer@hacettepe.edu.tr)

Sema Yayla (Hacettepe University, Mathematics - semasimsek@hacettepe.edu.tr)

Ayfer Ezgi Yılmaz (Hacettepe University, Statistics - ezgiyilmaz@hacettepe.edu.tr)

Area Editors

Mathematics

Emre Alkan (Number Theory - ealkan@ku.edu.tr)

Angel Del Rio (Algebra, Group Theory - adelrio@um.es)

Naoki Endo (Commutative Rings and Algebras - nendo@rs.tus.ac.jp)

Sergio Estrada (Homological Algebra - sestrada@um.es)

Rodrigo Hernandez Gutierrez (General Topology - rod@xanum.uam.mx)

Varga Kalantarov (Partial Differential Equations - vkalantarov@ku.edu.tr)

Serap Öztop Kaptanoğlu (Abstract Harmonic Analysis - oztops@istanbul.edu.tr)

Azer Khanmamedov (Partial Differential Equations - azer@hacettepe.edu.tr)

Adam Lecko (Complex Analysis - alecko@matman.uwm.edu.pl)

Emre Mengi (Numerical Analysis - emengi@ku.edu.tr)

Cihan Orhan (Analysis, Summability - orhan@science.ankara.edu.tr)

Abdullah Özbekler (Ordinary Differential Equations - aozbekler@gmail.com)

Ekin Özman (Number Theory, Algebraic Geometry - ekin.ozman@boun.edu.tr)

Mehmetçik Pamuk (Topology, Manifolds and Cell Complexes - mpamuk@metu.edu.tr)

Changguo Shao (Group Theory - shaoguozi@163.com)

Bülent Ünal (Differential Geometry - bulent@fen.bilkent.edu.tr)

Luca Vitagliano (Differential Geometry - lvitagliano@unisa.it)

Dingguo Wang (Hopf Algebras, Tensor Categories - dgwang@qfnu.edu.cn)

Sibei Yang (Harmonic Analysis and Functional Analysis - yangsb@lzu.edu.cn)

Xin Zhang (Graph Theory and Combinatorics - xzhang@xidian.edu.cn)

Shengda Zeng (Partial Differential Equations, Nonlinear Analysis, Control Theory - zengshengda@163.com)

Statistics

- Ali Allahverdi (Operational Research & Statistics - ali.allahverdi@ku.edu.kw)
Olcay Arslan (Robust Statistics - oarslan@ankara.edu.tr)
Narayanaswamy Balakrishnan (Applied Statistics, Theory of Statistics - bala@mcmaster.ca)
Adil Baykasoglu (Operational Research - adil.baykasoglu@deu.edu.tr)
Haydar Demirhan (Categorical Data Analysis, Monte Carlo Simulation - haydar.demirhan@rmit.edu.au)
Sat Gupta (Sampling, Time Series - sngupta@uncg.edu)
Tahir Hanalioğlu (Stochastic Processes Theory, Probability Theory - tahirkhaniyev@etu.edu.tr)
Burcu Hüdaverdi (Time Series Analysis, Multivariate Statistics - burcu.hudaverdi@deu.edu.tr)
Zeynep Işıl Kalayhoğlu (Bayesian Inference, Model Selection - kzeynep@metu.edu.tr)
Hasan Örkçü (Data Envelopment Analysis, Operation Research - hhorkcu@gazi.edu.tr)
Birdal Şenoğlu (Experimental Design, Statistical Distributions - senoglu@science.ankara.edu.tr)

Contents

Mathematics

Research Articles

1	Algebraic theory of degenerate general bivariate Appell polynomials and related interpolation hints <i>by Subuhi Khan, Mehnaz Haneef and Mumtaz Riyasat</i>	1
2	Inequalities for the A -joint numerical radius of two operators and their applications <i>by Kais Feki</i>	22
3	Operator inequalities via accretive transforms <i>by Ibrahim Halil Gümüş, Hamid Reza Moradi and Mohammad Sababheh</i>	40
4	Notes on some classes of spirallike functions associated with the q -integral operator <i>by Tuğba Yavuz and Şahsene Altınkaya</i>	53
5	Near best approximation property of interpolation and Poisson polynomials in weighted variable exponent Smirnov classes <i>by Ahmet Testici and Daniyal Israfilov</i>	62
6	Piecewise polynomial numerical method for Volterra integral equations of the fourth-kind with constant delay <i>by Saeed Pishbin and Parviz Darania</i>	74
7	Subcategories of the category of T -convergence spaces <i>by Yuan Gao and Bin Pang</i>	88
8	Fuzzy rough sets based on Morsi fuzzy hemimetrics <i>by Guangxu Zhang and Wei Yao</i>	107
9	On classification of 7-dimensional odd-nilpotent Leibniz algebras <i>by Ismail Demir</i>	121
10	On the computation of some code sets of the added Sierpinski triangle <i>by Aslıhan İklim Çınar and Mustafa Sultan</i>	130
11	Graphs of schemes associated to group actions <i>by Ali Ulaş Özgür Kişisel and Engin Özkan</i>	145

12	On the geometry of fixed points and discontinuity <i>by Rajendra Prasad Pant, Nihal Özgür, Bharti Joshi and Mangey Ram</i>	155
13	Screen generic lightlike submanifolds of semi-Riemannian product manifolds <i>by Nergiz (Önen) Poyraz</i>	171
14	Regarding equitable colorability defect of hypergraphs <i>by Saeed Shaebani</i>	184
15	Orlicz algebras associated to a Banach function space <i>by Chung-Chuan Chen, AliReza Bagheri Salec and Seyyed Mohammad Tabatabaie</i>	191

Statistics

Research Articles

16	Marshall-Olkin Bilal distribution with associated minification process and acceptance sampling plans <i>by Muhammed Rasheed Irshad, Muhammed Ahammed, Radhakumari Maya and Amer Ibrahim Al-Omari</i>	201
17	LS-14 test suite for long sequences <i>by Ziya Akcengiz, Melis Aslan, Ali Doğanaksoy, Fatih Sulak and Muhiddin Uğuz</i>	230
18	Non-informative Bayesian estimation in dispersion models <i>by Ibrahim Sadok, Mourad Zribi and Afif Masmoudi</i>	251
19	On the study of the stress-strength reliability in Weibull- F Models <i>by Zohreh Pakdaman and Reza Alizadeh Noughabi</i>	269
20	Bulk arrival queue with unreliable server, balking and modified Bernoulli vacation <i>by Bharathi Jagannathan and Nandhini Sivasubramaniam</i>	289