

# C O M M U N I C A T I O N S

FACULTY OF SCIENCES  
UNIVERSITY OF ANKARA

DE LA FACULTE DES SCIENCES  
DE L'UNIVERSITE D'ANKARA

**Series A1: Mathematics and Statistics**

---

**VOLUME: 69**

**Number: 1**

**YEAR: 2020**

---

Faculty of Sciences, Ankara University  
06100 Beşevler, Ankara-Turkey  
ISSN 1303-5991 e-ISSN 2618-6470

# C O M M U N I C A T I O N S

FACULTY OF SCIENCES  
UNIVERSITY OF ANKARA

DE LA FACULTE DES SCIENCES  
DE L'UNIVERSITE D'ANKARA

Series A1: Mathematics and Statistics

**Volume 69**

**Number : 1**

**Year :2020**

**Owner (Sahibi)**

Selim Osman SELAM, Dean of Faculty of Sciences

**Editor in Chief (Yazı İşleri Müdürü)**

Nuri ÖZALP

**Managing Editor**

Erdal GÜNER

**Area Editors**

Fatma KARAKOC (Differential Equations)	Murat OLGUN (Functional Analysis)	Murat ŞAHİN (Coding Theory, Cryptology)
Arzu UNAL (Partial Differential Equations)	Gülen TUNCA (Analysis-Operator Theory)	Elif TAN (Number Theory, Combinatorics)
Elif DEMİRCİ (Mathematical Modelling-Computational Mathematics)	Mehmet UNVER (Analysis)	Burcu UNGOR (Module Theory)
İshak ALTUN (Topology)	Oktay DUMAN (Summability and Approximation Theory)	Ahmet ARIKAN (Group Theory)
Yusuf YAYLI (Geometry)	Sevda SAĞIROĞLU PEKER (Topology)	Tuğçe ÇALCI (Ring Theory)
Halil AYDOĞDU (Stochastic Process-Probability)	Olçay ARSLAN (Robust Statistics-Regression-Distribution Theory)	Birdal SENOGLU (Theory of Statistics & Applied Statistics)
Yılmaz AKDİ (Econometrics-Mathematical Statistics)	Mehmet YILMAZ (Computational Statistics)	Cemal ATAKAN (Multivariate Analysis)

**Editors**

M. AKHMET METU TURKEY	P. AGARWAL Anand Int. College of Eng., INDIA	Abdon ATANGANA U. Free State, S.AFRICA
Elgiz BAIRAMOV Ankara University, TURKEY	H. BEREKETOĞLU Ankara University, TURKEY	A. AYTUNA Sabancı University, TURKEY
C.Y. CHAN University of Louisiana, USA	A. B. EKİN Ankara University, TURKEY	H. BOZDOĞAN Uni. of Tennessee, USA
V. GREGORI Univ. Politècnica de València, SPAIN	V.S. GULİYEV Nat. Acad. of Sci, AZERBAIJAN	D. GEORGIOU Uni. of Patras, GREECE
I GYORI Veszprem University, HUNGARY	A. HARMANCI Hacettepe University, TURKEY	F.HATHOUT Université de Saïda, ALGERIA
A. KABASINSKAS Kaunas U.of Tech., LITHUANIA	K. ILARSLAN Kırıkkale Uni., TURKEY	V. KALANTAROV Koç University, TURKEY
H.T. LIU Tatung University, TAIWAN	A. M. KRALL The Penn. State University, USA	H.P. KUNZI Uni. of CT, SOUTH AFRICA
Vishnu Narayan MISHRA S. V.NIT., INDIA	C. ORHAN Ankara University, TURKEY	S. ROMAGUERA Uni. Pol. de València, SPAIN
H. M. SRIVASTAVA, Univ. of Victoria, CANADA	I.P. STAVROULAKIS Uni. of Ioannina, GREECE	S. YARDIMCI Ankara University, TURKEY

This Journal is published two issues in a year by the Faculty of Sciences, University of Ankara. Articles and any other material published in this journal represent the opinions of the author(s) and should not be construed to reflect the opinions of the Editor(s) and the Publisher(s).

**Correspondence Address:**

COMMUNICATIONS

EDITORIAL OFFICE

Ankara University, Faculty of Sciences,  
06100 Tandoğan, ANKARA – TURKEY

Tel: (90) 312-212 67 20 Fax: (90) 312-223 50 00

e-mail: [commun@science.ankara.edu.tr](mailto:commun@science.ankara.edu.tr)

<http://communications.science.ankara.edu.tr/index.php?series=A1>

**Print:**

Ankara University Press

İncitəş Sokak No:10 06510 Beşevler

ANKARA – TURKEY

Tel: (90) 312-213 66 55

# C O M M U N I C A T I O N S

FACULTY OF SCIENCES  
UNIVERSITY OF ANKARA

DE LA FACULTE DES SCIENCES  
DE L'UNIVERSITE D'ANKARA

Series A1: Mathematics and Statistics

**Volume: 69**

**Number: 1**

**Year: 2020**

O. KHARAZMÎ , S. JAHANGARD, A new family of lifetime distributions in terms of cumulative hazard rate function .....	1
S. DEMİRCİOĞLU , B. GÜVEN, Approximate test for testing a null variance ratio in the Unbalanced One-Way Random Model .....	23
G. FARID, Study of a generalized Riemann-Liouville fractional integral via convex functions .....	37
S. DRAGOMIR, Further inequalities for the generalized k-g-fractional integrals of functions with bounded variation .....	49
A. KÜÇÜKASLAN , V.S. GULİYEV , A. SERBETÇİ, Generalized fractional maximal operator on generalized local Morrey spaces .....	73
G. MUTLU, Spectral properties of the second order difference equation with selfadjoint operator coefficients .....	88
E. KORKMAZ , R. ERTÜRK, Compactness and stability in diframes .....	97
K. DOĞAN , F. GÜRSOY , V. KARAKAYA , S.H. KHAN, Some new results on convergence, stability and data dependence in n-normed spaces .....	112
F. FARSHADIFAR , H. ANSARI-TOROGHY, Classical and strongly classical 2-absorbing second submodules .....	123
M. HAMELDARBANDI , Mehmet YILMAZ, Transmuted Gumbel univariate exponential distribution .....	137
O. ŞAHİN, Analysis of the Rayleigh wave field due to a tangential load applied on the surface of a coated elastic half-space.	158
B. GUPTA , B. B. CHATURVEDI, On Ricci pseudo-symmetric super quasi-Einstein Hermitian manifolds .....	172
H. ABOOD , N. MOHAMMED, Generalized projective curvature tensor of nearly cosymplectic manifold .....	183
R. EKMEKÇİ, A Tychonoff theorem for graded ditopological texture spaces .....	193
Ş. TOPRAKSEVEN, A space-time discontinuous Galerkin method for linear hyperbolic PDE's with high frequencies .....	213
F. KUTLU , F. TUĞRUL , M. ÇITİL, Introduction to temporal intuitionistic fuzzy approximate reasoning .....	232
H. ARSLAN , H. CAN, Generalized Burnside algebra of type $B_n$ .....	252
S. CHANDOK , S. MANRO, Existence of fixed points in quasi metric spaces .....	266
O. KESEMEN , E. ÖZKUL , Ü. ÜNSAL, Confidence regions for bivariate probability density functions using polygonal areas	276
Z. OZDEMİR, Lightlike hypersurfaces and lightlike focal sets with respect to Bishop frame in 4-dimensional Minkowski Space $E_1^4$ .....	307
H. G. AKAY, Pro-C completions of crossed squares of commutative algebras .....	320
S. YÜKSEL PERKTAŞ , F.E. ERDOĞAN, Lightlike hypersurfaces with planar normal sections in $R^4$ .....	336
İ. AKTAŞ , H. ORHAN , D. RADUCANU, On some properties of generalized Struve function .....	347
A.F. SAGLAMER , N. ÇALIŞKAN, Integrability of the distributions of GCR-lightlike submanifolds of $(\varepsilon)$ -Sasakian manifolds .....	354
N. IRMAK, More identities for Fibonacci and Lucas quaternions .....	369
F. ÖZGER, On new Bézier bases with Schurer polynomials and corresponding results in approximation theory .....	376
M. JAFARI , T. BULBOACA , A. ZİREH , E. ANALOUEİ ADEGANİ, Simple criteria for univalence and coefficient bounds for a certain subclass of analytic functions .....	394
İ. ÖREN , H.A. ÇOBAN, Equivalence conditions of two systems of vectors in the taxicab plane and its applications to taxicab polygons .....	413
A. AKPINAR, n-spaces .....	431
E. YILDIRIM, Green function and resolvent operator of a Schrödinger equation with general point interaction .....	441
R. ABDEL-BAKY , F. TAŞ, W-line congruences .....	450

# C O M M U N I C A T I O N S

FACULTY OF SCIENCES  
UNIVERSITY OF ANKARA

DE LA FACULTE DES SCIENCES  
DE L'UNIVERSITE D'ANKARA

Series A1: Mathematics and Statistics

Volume: 69

Number: 1

Year: 2020

M.K. KARACAN, N. YÜKSEL, Y. TUNÇER, LCN-translation surfaces in affine 3-space .....	461
E. KAYNAR , E. TÜRKMEÅ, H. ÇALIÅICI, SS-supplemented modules .....	473
S. AKDUMAN , S. KARAKILIÇ , D. COŞKAN, Asymptotic behavior of resonance eigenvalues of the Schrödinger operator with a matrix potential .....	486
R. ABDEL-BAKY, Y. ÜNLÜTÜRK, The relatively osculating developable surfaces of a surface along a direction curve ....	511
E. KOÇ SÖGÜTCÜ, N. UR REHMAN, Lie ideals and Jordan triple $(\alpha, \beta)$ -derivations in rings .....	528
S. YILDIZ, K. DEMİRCİ , F. DİRİK, On the $K_\alpha$ continuity of real functions .....	540
N. DEMİRTAŞ, Z. GÜZEL ERGÜL, Decomposition of soft continuity via soft locally b-closed set .....	547
A.E. ÇETİN, N. KOYUNCU, Estimation of population mean under different stratified ranked set sampling designs with simulation study application to BMI data .....	560
A. YILMAZ, M. KARA, H. AYDOĞDU, A study on comparisons of Bayesian and classical parameter estimation methods for the two-parameter Weibull distribution .....	576
M. QASİM, M. BARAN, $T_0$ convergence-approach spaces .....	603
H.R. SAHEBİ, M. AZHINI, M. CHERAGHI, A generalized nonlinear iterative algorithm for the explicit midpoint rule of nonexpansive semigroup .....	613
A. ZAGANE, M. DJAA, R.K.B. OTMANE, On generalized Cheeger-Gromoll metric and harmonicity .....	629
İ. ÖZGÜÇ, Results on quasi-statistical limit and quasi-statistical cluster points .....	646
N. TAK, Meta fuzzy index functions .....	654
O. ÖZDEMİR, Oscillation results for second order half-linear functional dynamic equations with unbounded neutral coefficients on time scales .....	668
A. ÇALIŞCAN, S. ŞENYURT, Curves and ruled surfaces according to alternative frame in dual space .....	684
C. KAN, M. OZKUT, Analysis of joint reliability importance in linear m-consecutive-k,l -out-of-n:F system .....	699
S. DAĞLIOĞLU, M.A. BAKIR, An evaluation of some methods used for determination of homogenous structural break point in mean of panel data .....	717
J.T. EGHWERÍDO, L. NZEI , I.J. DAVID , O.D. ADUBISI, The Gompertz extended generalized exponential distribution: properties and applications .....	739
P.S. MULLER, M. NIRMALA, A comparative study of classifiers for early diagnosis of gestational Diabetes Mellitus .....	754
O. OĞUR, Grand Lorentz sequence space and its multiplication operator .....	771
O.R. DEHGHAN, M. NOROUZI, Generalized fuzzy subhyperspaces based on fuzzy points .....	782
S. ALİ, S. DEY, M.H. TAHİR, M. MANSOOR, A comparison of different methods of estimation for the flexible Weibull distribution .....	794
T. RAJA, Y. BOLAT, K. LOGAARASI , V. SADHASIVAM, Interval oscillation criteria for impulsive conformable fractional differential equations .....	815
Y. ALAGÖZ, Relative subcopure-injective modules .....	832
İ. EKİNCİOĞLU, E. KAYA , Ş.E. EKİNCİOĞLU, Fourier-Bessel transforms of Dini-Lipschitz functions on Lebesgue spaces .....	847
U. ULUSU, E. GÜLLE, Wijsman asymptotical $I_2$ -statistically equivalent double set sequences of order $\eta$ .....	854
H. BUDAK, T. TUNÇ, Generalized Hermite-Hadamard type inequalities for products of co-ordinated convex functions .....	863
T. YAĞMUR, A note on hyperbolic $(p,q)$ -Fibonacci quaternions .....	880
Z. AKÇA, A. BAYAR, S. EKMEKÇİ, On the intuitionistic fuzzy projective Menelaus and Ceva's conditions .....	891
B. YILMAZ, A. HAS, Alternative partner curves in the Euclidean 3-space .....	900

# C O M M U N I C A T I O N S

FACULTY OF SCIENCES  
UNIVERSITY OF ANKARA

DE LA FACULTE DES SCIENCES  
DE L'UNIVERSITE D'ANKARA

Series A1: Mathematics and Statistics

**Volume: 69**

**Number: 1**

**Year: 2020**

E. HASGÜL , A. S. SELCUK-KESTEL , Y. YOLCU OKUR, Forecasting mortality rates with a general stochastic mortality trend model .....	910
P. İPEK AL , Z. ISMAILOV, First order maximally dissipative singular differential operators .....	929
N.D. ARAL , M. ET, Generalized difference sequence spaces of fractional order defined by Orlicz functions .....	941
S. TURHAN , İ. İŞCAN , S. NUMAN, Some general integral inequalities for Lipschitzian functions via conformable fractional integral .....	952
İ. ASLAN, Approximation by sampling type discrete operators .....	969
S. DENİZ, On the stability analysis of the time-fractional variable order Klein-Gordon equation and a numerical simulation	981
H. ORHAN, M. ÇAĞLAR, Erratum to: “( $\theta, \mu, \tau$ )-Neighborhood for analytic functions involving modified sigmoid function,” [Commun. Fac. Sci. Univ. Ank. Ser. A 1 Math. Stat., 68(2) (2019), 2161-2169]	993

# C O M M U N I C A T I O N S

FACULTY OF SCIENCES  
UNIVERSITY OF ANKARA

DE LA FACULTE DES SCIENCES  
DE L'UNIVERSITE D'ANKARA

Series A1: Mathematics and Statistics

**Volume: 69**

**Number: 1**

**Year: 2020**