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Education Information

Doctorate, Kocaeli University, Fen Bilimleri Enstitüsü, Mathematics, Turkey 2015 - 2023
Postgraduate, Kocaeli University, Fen Bilimleri Enstitüsü, Matematik (Yl), Turkey 2013 - 2015
Undergraduate, Anadolu University, Faculty Of Busıness Admınıstratıon, Department Of Busıness, Turkey 2007 - 2013
Undergraduate, Bülent Ecevit Üniversitesi, Fen-Edebiyat Fakültesi, Matematik Bölümü, Turkey 2008 - 2012

Dissertations

Doctorate, Uzay-zaman kesirli diferansiyel denklemlerinin çözümlerinin analizi, Kocaeli University, Fen Bilimleri Enstitüsü, Mathematics, 2023
Postgraduate, QRS kompleksinin dalgacık dönüşümü ile belirlenmesi, Kocaeli Üniversitesi, Fen Bilimleri Enstitüsü, Matematik (Yl), 2015

Research Areas

Natural Sciences, Engineering and Technology

Academic Titles / Tasks

Assistant Professor, Kocaeli University, Fen Edebiyat Fakültesi, Fen Edebiyat Fakültesi, 2024 - Continues
Research Assistant, Kocaeli University, Fen Bilimleri Enstitüsü, Fen Bilimleri Enstitüsü, 2013 - 2024

Academic and Administrative Experience

Deputy Head of Department, Kocaeli University, Fen Edebiyat Fakültesi, Matematik, 2024 - Continues

Courses

Öğretmenlik Uygulaması, Undergraduate, 2023 - 2024

Probability, Undergraduate, 2023 - 2024
Professional English II, Undergraduate, 2022 - 2023
Statistics II, Undergraduate, 2022 - 2023
Differential Equations, Undergraduate, 2023 - 2024
Differential Equations, Undergraduate, 2023 - 2024
Analytical geometry II, Undergraduate, 2022 - 2023
Complex Analysis I, Undergraduate, 2023 - 2024
Statistics and Probability, Undergraduate, 2022 - 2023
Statistics II, Undergraduate, 2022 - 2023
Calculus I, Undergraduate, 2023 - 2024

Published journal articles indexed by SCI, SSCI, and AHCI

I. **On the solution of time fractional initial value problem by a new method with ARA transform**
ÇETİNKAYA S., DEMİR A.
Journal of Intelligent and Fuzzy Systems, vol.44, no.2, pp.2693-2701, 2023 (SCI-Expanded)
II. **On Effects of a New Method for Fractional Initial Value Problems**
Kodal Sevindir H., Çetinkaya S., Demir A.
ADVANCES IN MATHEMATICAL PHYSICS, vol.2021, pp.1-10, 2021 (SCI-Expanded)
III. **On the Solution of Bratu's Initial Value Problem in the Liouville-Caputo Sense by ARA Transform and Decomposition Method**
Çetinkaya S., Demir A.
Comptes Rendus De L Academie Bulgare Des Sciences, vol.74, no.12, pp.1729-1738, 2021 (SCI-Expanded)
IV. **Solution of Space-Time-Fractional Problem by Shehu Variational Iteration Method**
Çetinkaya S., Demir A., Kodal Sevindir H.
ADVANCES IN MATHEMATICAL PHYSICS, vol.2021, 2021 (SCI-Expanded)

Articles Published in Other Journals

I. **Diffusion Equation Including Local Fractional Derivative and Dirichlet Boundary Conditions**
Çetinkaya S., Demir A.
Konuralp Journal of Mathematics, vol.11, no.2, pp.148-154, 2023 (Peer-Reviewed Journal)
II. **On new aspects of Chebyshev polynomials for space-time fractional diffusion process**
Demir A., Bayrak M. A., Bulut A., Ozbilge E., Cetinkaya S.
APPLIED MATHEMATICS AND NONLINEAR SCIENCES, vol.8, no.2, pp.1051-1062, 2023 (ESCI)
III. **Space-Time Fractional Heat Equation's Solutions with Fractional Inner Product**
Çetinkaya S., Demir A.
Turkic World Mathematical Society Journal of Applied and Engineering Mathematics, vol.13, no.2, pp.462-469, 2023 (ESCI)
IV. **On the Solution of Mathematical Model Including Space-Time Fractional Diffusion Equation in Conformable Derivative, Via Weighted Inner Product**
ÇETİNKAYA S., DEMİR A.
Kocaeli Journal of Science and Engineering, vol.6, no.1, pp.1-5, 2023 (Peer-Reviewed Journal)
V. **Solutions of Fuzzy Time Fractional Heat Equation**
ÇETİNKAYA S., DEMİR A.
Journal of Mathematical Extension, vol.22, no.6, 2022 (ESCI)
VI. **Time fractional problem via inner product including weighted function**
ÇETİNKAYA S., DEMİR A.
Journal of Balıkesir University Institute of Science and Technology, vol.24, no.1, pp.91-98, 2022 (Peer-Reviewed

Journal)

VII. **ON THE INTEGRAL TRANSFORM SHEHU FOR NONLINEAR FRACTIONAL PROBLEMS**
ÇETİNKAYA S., DEMİR A.
MELDAR : REVISTA INTERNACIONAL DE ESTUDIOS SEFARDÍES, 2022 (Peer-Reviewed Journal)

VIII. **SOLUTIONS FOR THE FRACTIONAL MATHEMATICAL MODELS OF DIFFUSION PROCESS**
Çetinkaya S., Bayrak M. A., Demir A., Baleanu D.
FACTA UNIVERSITATIS-SERIES MATHEMATICS AND INFORMATICS, vol.37, no.1, pp.103-120, 2022 (ESCI)

IX. **NUMERICAL SOLUTIONS OF NONLINEAR SYSTEM OF FRACTIONAL DIFFERENTIAL EQUATIONS VIA A NEW INTEGRAL TRANSFORM**
Cetinkaya S., Demir A.
TWMS JOURNAL OF APPLIED AND ENGINEERING MATHEMATICS, vol.12, no.3, pp.1061-1068, 2022 (ESCI)

X. **Effects of the ARA transform method for time fractional problems**
ÇETİNKAYA S., DEMİR A.
Centre for Evaluation in Education and Science (CEON/CEES), vol.26, 2022 (Peer-Reviewed Journal)

XI. **DIFFUSION EQUATION INCLUDING A LOCAL FRACTIONAL DERIVATIVE AND WEIGHTED INNER PRODUCT**
ÇETİNKAYA S., DEMİR A.
JOURNAL OF APPLIED MATHEMATICS AND COMPUTATIONAL MECHANICS, vol.21, no.1, pp.19-27, 2022 (ESCI)

XII. **Analysis of fractional Fokker-Planck equation with Caputo and Caputo-Fabrizio derivatives**
ÇETİNKAYA S., DEMİR A., BALEANU D.
Annals of the University of Craiova, Mathematics and Computer Science Series, vol.48, no.2, pp.334-348, 2021 (ESCI)

XIII. **Sequential space fractional diffusion equation's solutions via new inner product**
ÇETİNKAYA S., DEMİR A.
ASIAN-EUROPEAN JOURNAL OF MATHEMATICS, vol.14, no.7, 2021 (ESCI)

XIV. **Sequential time space fractional diffusion equation including nonhomogenous initial boundary conditions**
ÇETİNKAYA S., DEMİR A.
TBILISI MATHEMATICAL JOURNAL, vol.14, no.2, pp.83-91, 2021 (ESCI)

XV. **ON SOLUTIONS OF HYBRID TIME FRACTIONAL HEAT PROBLEM**
ÇETİNKAYA S., DEMİR A.
BULLETIN OF THE INSTITUTE OF MATHEMATICS ACADEMIA SINICA NEW SERIES, vol.16, no.1, pp.49-62, 2021 (ESCI)

XVI. **SOLUTION OF HYBRID TIME FRACTIONAL DIFFUSION PROBLEM VIA WEIGHTED INNER PRODUCT**
ÇETİNKAYA S., DEMİR A.
JOURNAL OF APPLIED MATHEMATICS AND COMPUTATIONAL MECHANICS, vol.20, no.2, pp.17-27, 2021 (ESCI)

XVII. **NUMERICAL SOLUTIONS OF NONLINEAR FRACTIONAL DIFFERENTIAL EQUATIONS VIA LAPLACE TRANSFORM**
Cetinkaya S., Demir A.
FACTA UNIVERSITATIS-SERIES MATHEMATICS AND INFORMATICS, vol.36, no.2, pp.249-257, 2021 (ESCI)

XVIII. **Hybrid Fractional Diffusion Problem with Dirichlet Boundary Conditions**
ÇETİNKAYA S., DEMİR A.
JOURNAL OF MATHEMATICAL EXTENSION, vol.15, no.26, pp.1-15, 2021 (ESCI)

XIX. **DIFFUSION EQUATION INCLUDING LOCAL FRACTIONAL DERIVATIVE AND NON-HOMOGENOUS DIRICHLET BOUNDARY CONDITIONS**
ÇETİNKAYA S., DEMİR A.
Journal of Scientific Reports-A, no.45, pp.101-110, 2020 (Peer-Reviewed Journal)

XX. **Time Fractional Equation Including Non-homogenous Dirichlet Boundary Conditions**
Çetinkaya S., Demir A.
Sakarya University Journal of Science, vol.6, no.24, pp.1185-1190, 2020 (Peer-Reviewed Journal)

XXI. **The Analytic Solution of Initial Periodic Boundary Value Problem Including Sequential Time**

Fractional Diffusion Equation
Çetinkaya S., Demir A., Kodal Sevindir H.
COMMUNICATIONS IN MATHEMATICS AND APPLICATIONS, vol.11, pp.173-179, 2020 (ESCI)

XXII. **The Analytic Solution of Sequential Space-Time Fractional Diffusion Equation Including Periodic Boundary Conditions**
Çetinkaya S., Demir A., Kodal Sevindir H.
JOURNAL OF MATHEMATICAL ANALYSIS, vol.11, no.1, pp.17-28, 2020 (ESCI)

XXIII. **THE ANALYTIC SOLUTION OF INITIAL BOUNDARY VALUE PROBLEM INCLUDING TIME FRACTIONAL DIFFUSION EQUATION**
Çetinkaya S., Demir A., Kodal Sevindir H.
FACTA UNIVERSITATIS-SERIES MATHEMATICS AND INFORMATICS, vol.35, no.1, pp.243-252, 2020 (ESCI)

XXIV. **Time Fractional Diffusion Equation with Periodic Boundary Conditions**
Çetinkaya S., Demir A.
Konuralp Journal of Mathematics, vol.8, no.2, pp.337-342, 2020 (Peer-Reviewed Journal)

XXV. **Equation Including Local Fractional Derivative and Neumann Boundary Conditions**
ÇETİNKAYA S., DEMİR A.
Kocaeli Journal of Science and Engineering, vol.3, no.2, 2020 (Peer-Reviewed Journal)

XXVI. **The Analytic Solution of Time-Space Fractional Diffusion Equation via New Inner Product with Weighted Function**
Çetinkaya S., Demir A.
COMMUNICATIONS IN MATHEMATICS AND APPLICATIONS, vol.10, pp.865-873, 2019 (ESCI)

XXVII. **On Numerical Solutions of Fuzzy Differential Equations**
Kodal Sevindir H., Çetinkaya S., Tabak G.
International Journal of Development Research, vol.8, no.9, pp.22971-22979, 2018 (Peer-Reviewed Journal)

XXVIII. **Makine öğrenmesi algoritmaları ve dalgacık dönüşümü ile EKG sinyalinden özellik çıkarımı**
Kodal Sevindir H., Çetinkaya S., Yazıcı C.
Journal of Balikesir University Institute of Science and Technology, vol.20, no.1, pp.94-109, 2018 (Peer-Reviewed Journal)

XXIX. **Asymptotic Analysis of an Affine Transformation in the Supply of Missing Data**
Kodal Sevindir H., Yazıcı C., Çetinkaya S.
SAKARYA UNIVERSITY JOURNAL OF SCIENCE, vol.22, no.6, 2018 (Peer-Reviewed Journal)

Books & Book Chapters

I. **New developments in science and mathematics**
Çetinkaya S., Demir A.
Hiperyayın, İstanbul, 2022

II. **Algorithmic Approaches for ECG Analysis**
KODAL SEVİNDİR H., YAZICI C., ÇETİNKAYA S.
in: Mathematical Modeling of Real World Problems: Interdisciplinary Studies in Applied Mathematics, , Editor, NOVA Science Publishers, pp.143-197, 2019

Refereed Congress / Symposium Publications in Proceedings

I. **On the Solution of Time Fractional Diffusion Equations with Periodic Boundary Conditions in the Sense of Local Fractional Derivatives**
Çetinkaya S., Demir A.
AICNHS 3rd International Conference on New Horizons in Science, Casablanca, Morocco, 1 - 03 September 2023, pp.11-20

II. **On the Sequential Space Fractional Heat-Like Problems**
Çetinkaya S., Demir A.
AICNHS 3rd International Conference on New Horizons in Science, Casablanca, Morocco, 1 - 03 September 2023, pp.1-10

III. **Augmented Shehu Transformations for Space-Time Fractional Diffusion Process**
Çetinkaya S., Demir A.
EU 2nd International Conference on Health, Engineering and Applied Sciences, Belgrade, Serbia, 4 - 06 August 2023, pp.126-149

IV. **On the Solution of Diffusion Equation in the Sense of Proportional Fractional Derivative**
Çetinkaya S., Demir A.
EU 2nd International Conference on Health, Engineering and Applied Sciences, Belgrade, Serbia, 4 - 06 August 2023, pp.150-162

V. **On the Sequential Fractional Initial Boundary Problem**
Çetinkaya S., Demir A.
International Dumlupınar Science and Mathematics Congress, Kütahya, Turkey, 5 - 07 September 2022, pp.499-510

VI. **New approach for the solution of time fractional Fokker-Planck equation**
Çetinkaya S., Demir A.
International Dumlupınar Science and Mathematics Congress, Kütahya, Turkey, 5 - 07 September 2022, pp.489-498

VII. **On The Solution of Mathematical Problem Including Sequential Time Fractional Wave Equation**
AKYOL M., DEMİR A., ÇETİNKAYA S.
4th International E-Conference on Mathematical Advances and Applications (ICOMAA-2021), İstanbul, Turkey, 26 May 2021, vol.4, pp.91-94

VIII. **DETECTION OF PREMATURE VENTRICULAR CONTRACTION BY USING ADABOOST ALGORITHM AND FRACTIONAL DERIVATIVE**
ÇETİNKAYA S., DEMİR A.
International Marmara Sciences Congress (Autumn) 2019, Kocaeli, Turkey, 1 - 03 November 2019, pp.180-183

IX. **THE ANALYTIC SOLUTION OF INITIAL BOUNDARY VALUE PROBLEM INCLUDING TIME-FRACTIONAL DIFFUSION EQUATION**
ÇETİNKAYA S., DEMİR A.
International Marmara Sciences Congress (Autumn) 2019, Kocaeli, Turkey, 1 - 03 November 2019, pp.174-179

X. **Detection of Parkinson's Disease via J48 Algorithm (Özet)**
Çetinkaya S., Demir A., Kodal Sevindir H.
10th International Conference on Image Processing, Wavelet and Applications (IWW2019), Kocaeli, Turkey, 18 - 20 October 2019, pp.58

XI. **Determination of Atrial Premature Beat by Using Adaboost Algorithm and Fractional Derivative**
Çetinkaya S., Demir A.
10th International Conference on Image Processing, Wavelet and Applications (IWW2019), Kocaeli, Turkey, 18 - 20 October 2019, pp.60

XII. **The Analytic Solution of Initial Boundary Value Problem Including Space-Time Fractional Diffusion Equation**
Çetinkaya S., Demir A.
10th International Conference on Image Processing, Wavelet and Applications (IWW2019), Kocaeli, Turkey, 18 - 20 October 2019, pp.61

XIII. **Performance Evaluation of Adaboost and Naive Bayes Algorithms for the Detection of Heart Attack (Özet)**
Çetinkaya S., Demir A., Kodal Sevindir H.
10th International Conference on Image Processing, Wavelet and Applications (IWW2019), Kocaeli, Turkey, 18 - 20 October 2019, pp.59

XIV. **Heart Attack Prediction by Using Support Vector Machine**
Çetinkaya S., Demir A., Kodal Sevindir H.
International Marmara Science and Social Sciences Congress, Kocaeli, Turkey, 26 - 28 April 2019, pp.1579-1583

XV. **THE ANALYTIC SOLUTION OF INITIAL BOUNDARY VALUE PROBLEM INCLUDING SPACE-FRACTIONAL DIFFUSION EQUATION**
ÇETİNKAYA S., DEMİR A., BAYRAK M. A.
International Marmara Sciences Congress (Spring 2019), Kocaeli, Turkey, 26 - 28 April 2019, pp.1453-1457

XVI. **Determination of Amyotrophic Lateral Sclerosis Disease Using K Nearest Neighborhood Algorithm**
Çetinkaya S., Demir A., Kodal Sevindir H.
International Marmara Science and Social Sciences Congress, Kocaeli, Turkey, 26 - 28 April 2019, pp.1470-1474

XVII. **Destek Vektör Makineleri ile Aritmi Sınıflandırılması**
Çetinkaya S., Demir A., Kodal Sevindir H.
International Marmara Science and Social Sciences Congress , Kocaeli, Turkey, 23 - 25 November 2018, pp.1629-1633

XVIII. **On Applications of Multidimensional Affine Transform in the Supply of Missing Data**
Yazıcı C., Çetinkaya S., Kodal Sevindir H.
The International Conference on Analysis and its Applications, Kırşehir, Turkey, 11 - 14 September 2018, pp.1-6

XIX. **Comparison of Kernel Functions in Arrhythmia Classification**
Çetinkaya S., Kodal Sevindir H., Yazıcı C.
International Conference on Mathematics: An Istanbul Meeting For World Mathematicians, İstanbul, Turkey, 3 - 06 July 2018, pp.256-261

XX. **QRS Detection via Machine Learning Algorithms (Özet)**
Kodal Sevindir H., Çetinkaya S., Yazıcı C.
International Conference on Mathematics: An Istanbul Meeting for World Mathematicians, İstanbul, Turkey, 3 - 06 July 2018

XXI. **Decision Tree Based ArrhythmiaClassification (Özet)**
Çetinkaya S., Kodal Sevindir H., Yazıcı C.
International Conference on Applied Analysis and Mathematical Modeling, İstanbul, Turkey, 20 - 24 June 2018

XXII. **On Wavelet Selection for Inpainting Problem (Özet)**
Yazıcı C., Kodal Sevindir H., Çetinkaya S.
International Conference on Applied Analysis and Mathematical Modeling, İstanbul, Turkey, 20 - 24 June 2018

XXIII. **Bulanık Cauchy Problemlerinin Sayısal Çözümü (Özet)**
Kodal Sevindir H., Çetinkaya S., Tabak G., Bayrak M. A.
UMTEB 3.Uluslararası Mesleki ve Teknik Bilimler Kongresi, Gaziantep, Turkey, 2 - 03 June 2018

XXIV. **İkinci Mertebeden Bulanık Başlangıç Değer Probleminin Homotopi Analiz Metodu ile Çözümü (Özet)**
Bayrak M. A., Tabak G., Çetinkaya S., Kodal Sevindir H.
UMTEB 3.Uluslararası Mesleki ve Teknik Bilimler Kongresi, Gaziantep, Turkey, 02 June 2018

XXV. **On Applications of Image Inpainting with Elliptic Masking for Medical Images (Özet)**
Kodal Sevindir H., Yazıcı C., Çetinkaya S.
9th International Conference on Image Processing, Wavelet and Applications, Kars, Turkey, 5 - 08 November 2017

XXVI. **Comparison among Wavelets for Preprocessing of ECG Signal (Özet)**
Kodal Sevindir H., Çetinkaya S., Yazıcı C.
9th International Conference on Image Processing, Wavelet and Applications, Kars, Turkey, 5 - 08 November 2017

XXVII. **On Problems of ECG Feature Extraction (Özet)**
Kodal Sevindir H., Çetinkaya S., Yazıcı C.
International Conference on Applied Analysis and Mathematical Modeling ICAAMM17, İstanbul, Turkey, 3 - 07 July 2017

XXVIII. **Image Inpainting Asymptotic Analysis for Horizontal Mask (Özet)**
Kodal Sevindir H., Yazıcı C., Çetinkaya S.
International Conference on Applied Analysis and Mathematical Modeling ICAAMM17, İstanbul, Turkey, 3 - 07 July 2017

XXIX. **On Choosing a Suitable Wavelet for ECG Artefact Reduction (Özet)**
Kodal Sevindir H., Çetinkaya S., Yazıcı C.
International Conference on Applied Analysis and Mathematical Modeling ICAAMM17, İstanbul, Turkey, 3 - 07 July

2017

XXX. **Image Inpainting by Shearlets and Wavelets via Elliptic Masking (Özet)**
Kodal Sevindir H., Yazıcı C., Çetinkaya S.
International Conference on Applied Analysis and Mathematical Modeling ICAAMM17, İstanbul, Turkey, 3 - 07 July 2017

XXXI. **Colour Visual Cryptography Based on Discrete Wavelet Transform (Özet)**
Kodal Sevindir H., Yazıcı C., Çetinkaya S.
8th International conference on Image Processing, Wavelet and Applications (IWW2016), İstanbul, Turkey, 22 - 24 September 2016

XXXII. **QRS Detection Based on Wavelet Transform (Özet)**
Kodal Sevindir H., Çetinkaya S., Yazıcı C.
The 8th International conference on Image Processing, Wavelet and Applications (IWW2016), İstanbul, Turkey, 22 - 24 September 2016

XXXIII. **Wavelet transform based noise removal from ECG signal for accurate heart rate detection using ECG**
Kodal Sevindir H., Çetinkaya S., Şayli Ö.
Tıp Teknolojileri Ulusal Kongresi, TIPTEKNO'15, Muğla, Turkey, 15 - 18 October 2015

XXXIV. **A Study on Physical Exercise Habit**
Kodal Sevindir H., Yazıcı C., Çetinkaya S.
Educational Researches and Publications Associations Congress, İstanbul, Turkey, 6 - 08 June 2014

Metrics

Publication: 69
Citation (WoS): 42
Citation (Scopus): 15
H-Index (WoS): 4
H-Index (Scopus): 2