

## Prof. Dr. ALİ DEMİR

### Kişisel Bilgiler

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### Eğitim Bilgileri

Doktora, Kocaeli Üniversitesi, Fen Bilimleri Enstitüsü, Matematik Anabilim Dalı, Türkiye 2004 - 2007

Yüksek Lisans, University of Illinois at Urbana-Champaign, Matematik, Amerika Birleşik Devletleri 1995 - 1997

Lisans, İstanbul Teknik Üniversitesi, Fen-Edebiyat, Matematik Mühendisliği, Türkiye 1989 - 1993

### Yabancı Diller

İngilizce, C2 Ustalık

### Yaptığı Tezler

Doktora, Lyapunov-Schmidt indirgeme metodu ile elde edilen indirgenmiş bifurkasyon denklemi ve analizi, Kocaeli Üniversitesi, Fen Bilimleri Enstitüsü, 2007

### Araştırma Alanları

Temel Bilimler

### Akademik Unvanlar / Görevler

Prof. Dr., Kocaeli Üniversitesi, Fen Edebiyat Fakültesi, Matematik, 2021 - Devam Ediyor

Doç. Dr., Kocaeli Üniversitesi, Fen Edebiyat Fakültesi, Matematik, 2014 - 2021

Yrd. Doç. Dr., Kocaeli Üniversitesi, Fen-Edebiyat Fakültesi, Matematik Bölümü, 2007 - 2014

Araştırma Görevlisi, Kocaeli Üniversitesi, Fen-Edebiyat Fakültesi, Matematik Bölümü, 2003 - 2007

### Akademik İdari Deneyim

Anabilim/Bilim Dalı Başkanı, Kocaeli Üniversitesi, 2009 - Devam Ediyor

Dekan Yardımcısı, Kocaeli Üniversitesi, Fen Edebiyat Fakültesi, Matematik, 2019 - 2022

## Verdiği Dersler

### Doktora

Mühendislik Matematiği I, Doktora, 2020 - 2021

### Lisans

Olasılık, Lisans, 2022 - 2023

Analiz II, Lisans, 2021 - 2022

Fonksiyonel Analiz, Lisans, 2021 - 2022

İstatistik ve Olasılık, Lisans, 2020 - 2021

Reel Analiz, Lisans, 2020 - 2021

Analiz I, Lisans, 2020 - 2021

Lineer Cebir, Lisans, 2020 - 2021

## Yönetilen Tezler

Kodal Sevindir H., DEMİR A., Uzay-zaman kesirli diferansiyel denklemlerinin çözümlerinin analizi, Doktora, S.ÇETİNKAYA(Öğrenci), 2023

Demir A., Kesirli diferansiyel denklemler, Yüksek Lisans, M.AKYOL(Öğrenci), 2022

Demir A., Kesirli mertebeden difüzyon denklemi için başlangıç sınırlı değer probleminin çözümü, Yüksek Lisans, G.LÜLEÇİ(Öğrenci), 2019

Demir A., Küçük gecikme içeren lineer kesirli diferansiyel denklemlerin çözümü, Yüksek Lisans, K.KARAPINAR(Öğrenci), 2019

Demir A., Durum değişkenine bağlı gecikme terimi içeren diferansiyel denklemlerin analizi, Doktora, S.ERMAN(Öğrenci), 2016

Demir A., Sınır sistemi modelinin analizi, Doktora, B.ÖZGÜR(Öğrenci), 2016

Demir A., Adomian ayrıştırma metodu ile ısı transfer denklemi için ters problem analizi, Yüksek Lisans, E.KORKMAZ(Öğrenci), 2012

## SCI, SSCI ve AHCI İndekslerine Giren Dergilerde Yayınlanan Makaleler

- I. **A NOVEL ANALYTICAL METHOD FOR TIME FRACTIONAL CONVECTION-DIFFUSION EQUATION THROUGH CLIQUE POLYNOMIALS OF THE COCKTAIL PARTY GRAPH**  
BAYRAK M. A., DEMİR A., Büyük A.  
Journal of Applied Analysis and Computation, cilt.15, sa.1, ss.564-573, 2025 (SCI-Expanded)
- II. **On the inverse problem of time dependent coefficient in a time fractional diffusion problem by sinc wavelet collocation method**  
BAYRAK M. A., DEMİR A.  
PHYSICA SCRIPTA, cilt.99, sa.10, 2024 (SCI-Expanded)
- III. **On the Inverse Problem of Time-Dependent Coefficient in a Time Fractional Diffusion Problem by Newly Defined Monic Laquerre Wavelets**  
Bayrak M. A., Demir A.  
JOURNAL OF COMPUTATIONAL AND NONLINEAR DYNAMICS, cilt.18, sa.11, 2023 (SCI-Expanded)
- IV. **A novel approach for the solution of fractional diffusion problems with conformable derivative**  
Bayrak M. A., Demir A., Ozbilge E.  
NUMERICAL METHODS FOR PARTIAL DIFFERENTIAL EQUATIONS, cilt.39, sa.3, ss.1870-1887, 2023 (SCI-Expanded)
- V. **Solving inverse non-linear fractional differential equations by generalized Chelyshkov wavelets**  
Erman S., DEMİR A., Ozbilge E.  
Alexandria Engineering Journal, cilt.66, ss.947-956, 2023 (SCI-Expanded)
- VI. **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, cilt.44, sa.2, ss.2693-2701, 2023 (SCI-Expanded)
- VII. **On the numerical solution of conformable fractional diffusion problem with small delay**  
Bayrak M. A., Demir A., Ozbilge E.  
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- VIII. **An Improved Version of Residual Power Series Method for Space-Time Fractional Problems**  
Bayrak M. A., Demir A., Ozbilge E.  
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- IX. **On Fractional Newton-Type Method for Nonlinear Problems**  
Bayrak M. A., Demir A., Ozbilge E.  
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- X. **Solving Time Fractional Schrodinger Equation in the Sense of Local Fractional Derivative**  
Bayrak M. A., Demir A.  
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- XI. **Solution of Space-Time-Fractional Problem by Shehu Variational Iteration Method**  
Çetinkaya S., Demir A., Kodal Sevindir H.  
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- XII. **ON THE SOLUTION OF BRATU'S INITIAL VALUE PROBLEM IN THE LIOUVILLE-CAPUTO SENSE BY ARA TRANSFORM AND DECOMPOSITION METHOD**  
ÇETİNKAYA S., DEMİR A.  
COMPTES RENDUS DE L ACADEMIE BULGARE DES SCIENCES, cilt.74, sa.12, ss.1729-1738, 2021 (SCI-Expanded)
- XIII. **On Effects of a New Method for Fractional Initial Value Problems**  
KODAL SEVİNDİR H., ÇETİNKAYA S., DEMİR A.  
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- XIV. **Numerical solution of fractional diffusion equation by Chebyshev collocation method and residual power series method**  
Bayrak M. A., Demir A., Ozbilge E.  
Alexandria Engineering Journal, cilt.59, ss.4709-4717, 2020 (SCI-Expanded)
- XV. **On the construction and stability analysis of the solution of linear fractional differential equation**  
Erman S., Demir A.  
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- XVI. **On solution of fractional partial differential equation by the weighted fractional operator**  
Bayrak M. A., Demir A., Ozbilge E.  
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- XVII. **New approaches for the solution of space-time fractional Schrodinger equation**  
Demir A., Bayrak M. A., Ozbilge E.  
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- XVIII. **A new approach for space-time fractional partial differential equations by residual power series method**  
Bayrak M. A., Demir A.  
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- XIX. **The stability analysis of a system with two delays**  
Erman S., Sevindir H., Demir A.  
BOUNDARY VALUE PROBLEMS, 2018 (SCI-Expanded)
- XX. **ON THE STABILITY OF TWO NEURON POPULATIONS INTERACTING WITH EACH OTHER**  
Ozgur B., DEMİR A.  
ROCKY MOUNTAIN JOURNAL OF MATHEMATICS, cilt.48, sa.7, ss.2337-2346, 2018 (SCI-Expanded)
- XXI. **The Solution of Initial Boundary Value Problem with Time and Space-Fractional Diffusion Equation via a Novel Inner Product**  
Sevindir H., DEMİR A.  
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- XXII. **Distinguishability of a source function in a time fractional inhomogeneous parabolic equation with**

**Robin boundary condition**

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- XXIII. **A note on the stability of a neural field model**  
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- XXV. **An analysis on the stability of a state dependent delay differential equation**  
Erman S., DEMİR A.  
OPEN MATHEMATICS, cilt.14, ss.425-435, 2016 (SCI-Expanded)
- XXVI. **IDENTIFICATION OF UNKNOWN COEFFICIENT IN TIME FRACTIONAL PARABOLIC EQUATION WITH MIXED BOUNDARY CONDITIONS VIA SEMIGROUP APPROACH**  
Ozbilge E., Demir A.  
DYNAMIC SYSTEMS AND APPLICATIONS, cilt.24, sa.3, ss.341-348, 2015 (SCI-Expanded)
- XXVII. **Numerical solution and distinguishability in time fractional parabolic equation**  
DEMİR A., Kanca F., Ozbilge E.  
BOUNDARY VALUE PROBLEMS, 2015 (SCI-Expanded)
- XXVIII. **Inverse problem for a time-fractional parabolic equation**  
Ozbilge E., DEMİR A.  
JOURNAL OF INEQUALITIES AND APPLICATIONS, 2015 (SCI-Expanded)
- XXIX. **Analysis of the inverse problem in a time fractional parabolic equation with mixed boundary conditions**  
Ozbilge E., DEMİR A.  
BOUNDARY VALUE PROBLEMS, 2014 (SCI-Expanded)
- XXX. **Identification of the unknown diffusion coefficient in a linear parabolic equation via semigroup approach**  
Ozbilge E., DEMİR A.  
ADVANCES IN DIFFERENCE EQUATIONS, 2014 (SCI-Expanded)
- XXXI. **Analysis of fractional partial differential equations by Taylor series expansion**  
DEMİR A., Erman S., Ozgur B., Korkmaz E.  
BOUNDARY VALUE PROBLEMS, 2013 (SCI-Expanded)
- XXXII. **Analysis of the new homotopy perturbation method for linear and nonlinear problems**  
Demir A., Erman S., Ozgur B., Korkmaz E.  
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- XXXIII. **Semigroup approach for identification of the unknown diffusion coefficient in a linear parabolic equation with mixed output data**  
Ozbilge E., DEMİR A.  
BOUNDARY VALUE PROBLEMS, 2013 (SCI-Expanded)
- XXXIV. **On the Inverse Problem of the Fractional Heat-Like Partial Differential Equations: Determination of the Source Function**  
ÖZKUM G., DEMİR A., Erman S., Korkmaz E., Ozgur B.  
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- XXXV. **Identification of the unknown boundary condition in a linear parabolic equation**  
DEMİR A., ÖZBİLGE E.  
JOURNAL OF INEQUALITIES AND APPLICATIONS, 2013 (SCI-Expanded)
- XXXVI. **Identification of the unknown coefficient in a quasi-linear parabolic equation by a semigroup approach**  
ÖZBİLGE E., DEMİR A.

- JOURNAL OF INEQUALITIES AND APPLICATIONS, 2013 (SCI-Expanded)
- XXXVII. **Stability for determining the principal coefficient of parabolic equation**  
Demir A., Erdem A.  
APPLIED MATHEMATICS AND COMPUTATION, cilt.219, sa.8, ss.3826-3830, 2012 (SCI-Expanded)
- XXXVIII. **Analysis of a semigroup approach in the inverse problem of identifying an unknown parameters**  
ÖZBİLGE E., DEMİR A.  
APPLIED MATHEMATICS AND COMPUTATION, cilt.218, sa.3, ss.965-969, 2011 (SCI-Expanded)
- XXXIX. **Analysis for the identification of an unknown diffusion coefficient via semigroup approach**  
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- XL. **Analysis of a semigroup approach in the inverse problem of identifying an unknown coefficient**  
DEMİR A., ÖZBİLGE E.  
MATHEMATICAL METHODS IN THE APPLIED SCIENCES, cilt.31, sa.14, ss.1635-1645, 2008 (SCI-Expanded)
- XLI. **Parametrized fibonacci search method with k-Lucas numbers**  
DEMİR A., ÖMÜR N., ULUTAS Y. T.  
APPLIED MATHEMATICS AND COMPUTATION, cilt.198, sa.1, ss.355-360, 2008 (SCI-Expanded)
- XLII. **Trisection method by k-Lucas numbers**  
Demir A.  
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- XLIII. **Identification of the unknown diffusion coefficient in a linear parabolic equation by the semigroup approach**  
DEMİR A., Hasanov A.  
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- XLIV. **Optimization by k-Lucas numbers**  
DEMİR A., ÖMÜR N., ULUTAS Y. T.  
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- XLV. **Monotonicity of input-output mappings in inverse coefficient and source problems for parabolic equations**  
HASANOV A., Demir A., Erdem A.  
JOURNAL OF MATHEMATICAL ANALYSIS AND APPLICATIONS, cilt.335, sa.2, ss.1434-1451, 2007 (SCI-Expanded)
- XLVI. **Semigroup approach for identification of the unknown diffusion coefficient in a quasi-linear parabolic equation**  
Demir A., Ozbilge E.  
MATHEMATICAL METHODS IN THE APPLIED SCIENCES, cilt.30, sa.11, ss.1283-1294, 2007 (SCI-Expanded)
- XLVII. **Delay equations with fluctuating delay related to the regenerative chatter**  
Demir A., Hasanov A., Namachchivaya N.  
INTERNATIONAL JOURNAL OF NON-LINEAR MECHANICS, cilt.41, sa.3, ss.464-474, 2006 (SCI-Expanded)

## **Diğer Dergilerde Yayınlanan Makaleler**

- I. **The stability analysis of a neural field model with small delay**  
Ozgur B., DEMİR A.  
SIGMA JOURNAL OF ENGINEERING AND NATURAL SCIENCES-SIGMA MUHENDISLIK VE FEN BILIMLERI DERGISI, cilt.42, sa.3, ss.900-904, 2024 (ESCI)
- II. **On Applications Shehu Variational Iteration Method to Time Fractional Initial Boundary Value Problems**  
ÇETİNKAYA S., DEMİR A.  
Konuralp Journal of Mathematics, cilt.12, sa.1, ss.13-20, 2024 (Scopus)
- III. **On a Fractional Operator of Adjoint Hybrid Fractional Derivative Operator**  
BAYRAK M. A., DEMİR A.

- Annals of the University of Craiova, Mathematics and Computer Science Series, cilt.51, sa.1, ss.21-39, 2024 (ESCI)
- IV. **Diffusion Equation Including Local Fractional Derivative and Dirichlet Boundary Conditions**  
ÇETİNKAYA S., DEMİR A.  
Konuralp Journal of Mathematics, cilt.11, sa.2, ss.148-154, 2023 (Scopus)
- V. **Diffusion Equation Including Local Fractional Derivative and Dirichlet Boundary Conditions**  
Çetinkaya S., Demir A.  
Konuralp Journal of Mathematics, cilt.11, sa.2, ss.148-154, 2023 (Hakemli Dergi)
- VI. **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, cilt.8, sa.2, ss.1051-1062, 2023 (ESCI)
- VII. **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, cilt.6, sa.1, ss.1-5, 2023 (Hakemli Dergi)
- VIII. **Identification of a time-dependent diffusivity coefficient in heat-like space-time fractional differential equations**  
Bayrak M. A., Demir A.  
Journal of Amasya University the Institute of Sciences and Technology, cilt.3, sa.2, ss.11-20, 2022 (Hakemli Dergi)
- IX. **On the challenge of identifying space dependent coefficient in space-time fractional diffusion equations by fractional scaling transformations method**  
Bayrak M. A., Demir A.  
TURKISH JOURNAL OF SCIENCE, cilt.7, sa.2, ss.132-145, 2022 (Hakemli Dergi)
- X. **NUMERICAL SOLUTIONS OF NONLINEAR SYSTEM OF FRACTIONAL DIFFERENTIAL EQUATIONS VIA A NEW INTEGRAL TRANSFORM**  
Demir A., Çetinkaya S.  
TWMS JOURNAL OF PURE AND APPLIED MATHEMATICS, cilt.12, sa.3, ss.1061-1068, 2022 (Hakemli Dergi)
- XI. **Solutions of Fuzzy Time Fractional Heat Equation**  
ÇETİNKAYA S., DEMİR A.  
JOURNAL OF MATHEMATICAL EXTENSION, sa.6, 2022 (ESCI)
- XII. **ON THE INTEGRAL TRANSFORM SHEHU FOR NONLINEAR FRACTIONAL PROBLEMS**  
ÇETİNKAYA S., DEMİR A.  
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- XIII. **A New Iterative Algorithm for the Time-Fractional Fisher Equation Including Small Delay**  
Demir A., Bayrak M. A.  
Konuralp journal of mathematics, cilt.10, sa.1, ss.1-10, 2022 (Hakemli Dergi)
- XIV. **Time fractional problem via inner product including weighted function**  
ÇETİNKAYA S., DEMİR A.  
Balıkesir Üniversitesi Fen Bilimleri Enstitüsü Dergisi, cilt.24, 2022 (Hakemli Dergi)
- XV. **SOLUTIONS FOR THE FRACTIONAL MATHEMATICAL MODELS OF DIFFUSION PROCESS**  
Çetinkaya S., Bayrak M. A., Demir A., Baleanu D.  
FACTA UNIVERSITATIS-SERIES MATHEMATICS AND INFORMATICS, cilt.37, sa.1, ss.103-120, 2022 (ESCI)
- XVI. **Time fractional problem via inner product including weighted function**  
ÇETİNKAYA S., DEMİR A.  
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- XVII. **Effects of the ARA transform method for time fractional problems**  
ÇETİNKAYA S., DEMİR A.  
Centre for Evaluation in Education and Science (CEON/CEES), cilt.26, 2022 (Hakemli Dergi)
- XVIII. **DIFFUSION EQUATION INCLUDING A LOCAL FRACTIONAL DERIVATIVE AND WEIGHTED INNER PRODUCT**  
ÇETİNKAYA S., DEMİR A.  
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- XIX. **Hybrid Fractional Diffusion Problem with Dirichlet Boundary Conditions**  
ÇETİNKAYA S., DEMİR A.  
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- XX. **Analysis of fractional Fokker-Planck equation with Caputo and Caputo-Fabrizio derivatives**  
ÇETİNKAYA S., DEMİR A., BALEANU D.  
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- XXI. **DETERMINATION OF TIME DEPENDENT DIFFUSION COEFFICIENT IN TIME FRACTIONAL DIFFUSION EQUATIONS BY FRACTIONAL SCALING TRANSFORMATIONS METHOD**  
Bayrak M. A., Demir A.  
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- XXII. **A NEW APPROACH FOR THE APPROXIMATE SOLUTION OF FRACTIONAL INTEGRO-DIFFERENTIAL EQUATIONS**  
Bayrak M. A., Demir A.  
BULLETIN OF THE INSTITUTE OF MATHEMATICS ACADEMIA SINICA NEW SERIES, cilt.16, sa.3, ss.193-215, 2021 (ESCI)
- XXIII. **Sequential space fractional diffusion equation's solutions via new inner product**  
ÇETİNKAYA S., DEMİR A.  
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- XXIV. **Sequential time space fractional diffusion equation including nonhomogenous initial boundary conditions**  
ÇETİNKAYA S., DEMİR A.  
TBILISI MATHEMATICAL JOURNAL, cilt.14, sa.2, ss.83-91, 2021 (ESCI)
- XXV. **ON SOLUTIONS OF HYBRID TIME FRACTIONAL HEAT PROBLEM**  
ÇETİNKAYA S., DEMİR A.  
BULLETIN OF THE INSTITUTE OF MATHEMATICS ACADEMIA SINICA NEW SERIES, cilt.16, sa.1, ss.49-62, 2021 (ESCI)
- XXVI. **SOLUTION OF HYBRID TIME FRACTIONAL DIFFUSION PROBLEM VIA WEIGHTED INNER PRODUCT**  
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- XXVII. **NUMERICAL SOLUTIONS OF NONLINEAR FRACTIONAL DIFFERENTIAL EQUATIONS VIA LAPLACE TRANSFORM**  
Cetinkaya S., Demir A.  
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- XXVIII. **DIFFUSION EQUATION INCLUDING LOCAL FRACTIONAL DERIVATIVE AND NON-HOMOGENOUS DIRICHLET BOUNDARY CONDITIONS**  
ÇETİNKAYA S., DEMİR A.  
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- XXIX. **DIFFUSION EQUATION INCLUDING LOCAL FRACTIONAL DERIVATIVE AND NON-HOMOGENOUS DIRICHLET BOUNDARY CONDITIONS**  
Çetinkaya S., Demir A.  
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- XXX. **Diffusion Equation Including Local Fractional Derivative and Non-Homogenous Dirichlet Boundary Conditions**  
Çetinkaya S., Demir A.  
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- XXXI. **Time Fractional Equation Including Non-homogenous Dirichlet Boundary Conditions**  
Çetinkaya S., Demir A.  
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- XXXII. **Equation Including Local Fractional Derivative and Neumann Boundary Conditions**

- ÇETİNKAYA S., DEMİR A.  
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- XXXIII. **On the Solutions of Linear Fractional Differential Equations of Order  $2q$  Including Small Delay Where  $0 < q < 1$**   
Demir A., Karapinar K., Erman S.  
COMMUNICATIONS IN MATHEMATICS AND APPLICATIONS, cilt.11, ss.31-40, 2020 (ESCI)
- XXXIV. **Time Fractional Diffusion Equation with Periodic Boundary Conditions**  
Çetinkaya S., Demir A.  
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- XXXV. **THE ANALYTIC SOLUTION OF INITIAL BOUNDARY VALUE PROBLEM INCLUDING TIME FRACTIONAL DIFFUSION EQUATION**  
Çetinkaya S., Demir A., Kodal Sevindir H.  
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- XXXVI. **The Analytic Solution of Initial Periodic Boundary Value Problem Including Sequential Time Fractional Diffusion Equation**  
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- XXXVII. **ON THE EXISTENCE AND UNIQUENESS OF SOLUTIONS FOR A FIRST AND SECOND-ORDER DISCRETE BOUNDARY VALUE PROBLEM**  
Coskun A., Demir A.  
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- XXXVIII. **THE ANALYTIC SOLUTION OF SEQUENTIAL SPACE-TIME FRACTIONAL DIFFUSION EQUATION INCLUDING PERIODIC BOUNDARY CONDITIONS**  
ÇETİNKAYA S., DEMİR A., KODAL SEVİNDİR H.  
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## Desteklenen Projeler

DEMİR A., Yükseköğretim Kurumları Destekli Proje, BİR DEN FAZLA DURUM DEĞİŞKENİNE BAĞLI GEÇME TERİMİ İÇEREN, 2014 - 2015

## **Metrikler**

Yayın: 148

Atıf (WoS): 341

Atıf (Scopus): 361

H-İndeks (WoS): 10

H-İndeks (Scopus): 10