

Prof. FATMA AYAZ

Personal Information

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International Researcher IDs

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Publons / Web Of Science ResearcherID: ABI-3035-2020

Yoksis Researcher ID: 1256

Education Information

Doctorate, The University of Leeds, School Of Mathematics, United Kingdom 1991 - 1995

Postgraduate, Ege University, Güneş Enerjisi Enstitüsü, Enerji (YI) (Tezli), Turkey 1987 - 1989

Undergraduate, Bursa Uludağ University, Balıkesir Necatibey Eğitim Fakültesi, Matematik Pr., Turkey 1980 - 1984

Foreign Languages

English, B2 Upper Intermediate

Dissertations

Doctorate, Fluid Mechanics of Microscopic Filter Feeding, The University of Leeds, School Of Mathematics, 1995

Postgraduate, Pasif sistemlerden çift cam duvar uygulamasında zamana göre değişen sıcaklık profilinin zamana göre değişen ısı akısına olan etkisinin araştırılması, Ege University, Güneş Enerjisi Enstitüsü, Enerji (YI) (Tezli), 1989

Research Areas

Natural Sciences, Engineering and Technology

Academic Titles / Tasks

Professor, Gazi University, Fen Fakültesi, Matematik, 2014 - Continues

Associate Professor, Gazi University, Fen Fakültesi, Matematik, 2009 - 2014

Assistant Professor, Balıkesir University, Faculty Of Arts And Sciences, Department Of Mathematics, 1996 - 2004

Research Assistant, Balıkesir University, Faculty Of Arts And Sciences, Department Of Mathematics, 1986 - 1996

Advising Theses

AYAZ F., Kesirli mertebeden diferensiyel denklemler için yaklaşık çözümler: Sayısal integral alma yöntemleri,

Postgraduate, İ.BEKTAŞ(Student), 2018

- AYAZ F., Investigation Of Magnetohydrodynamic Flow And Heat Transfer In Different Geometries, Postgraduate, H.YETİM(Student), 2018
- AYAZ F., Kesirli mertebeden diferansiyel denklemler için sayısal ve yaklaşık yöntemler, Postgraduate, O.GÖRGÜLÜ(Student), 2017
- AYAZ F., A Method For Some Nonlinear Mathematical Models, Doctorate, M.EKİCİ(Student), 2016
- AYAZ F., Approximate solutions for fractional order variable coefficients differential equations and the system of such equations by hermite collocation method, Doctorate, N.AKGÖNÜLLÜ(Student), 2014
- AYAZ F., Laplace transforms of fractional calculus and some of the biophysical applications, Postgraduate, F.ÖZKARA(Student), 2013
- AYAZ F., Differential equations of fractional order and a study on numerical solutions, Postgraduate, A.DOĞAN(Student), 2011
- Ayaz F., BAZI ÖZEL TİPTE BAŞLANGIÇ VE SINIR DEĞER PROBLEMLERİNİN YAKLAŞIK ÇÖZÜMLERİ ÜZERİNE BİR ÇALIŞMA : VAN DER POL DENKLEMİ VE DİFERENSİYEL TRANSFORM, Postgraduate, Y.GÜRKAN(Student), 2010
- Ayaz F., A STUDY OF LINEAR SINGULAR AND NON-SINGULAR INTEGRAL EQUATION ON APPROXIMATE SOLUTIONS: FRACTURE MECHANİC, Postgraduate, M.EKİCİ(Student), 2010
- Ayaz F., APPROXIMATE SOLUTIONS OF SINGULAR INITIAL OR BOUNDARY VALUE PROBLEMS: DIFFERENTIAL TRANSFORMATION AND ADOMIAN DECOMPOSITION METHODS, Postgraduate, D.ÜNAL(Student), 2010
- AYAZ F., Singüler başlangıç veya sınır değer problemlerinin yaklaşık çözümleri: Diferansiyel dönüşüm ve adomian ayrıştırma metodları, Postgraduate, D.ÜNAL(Student), 2010
- Ayaz F., NUMERICAL SOLUTIONS VIA MAPLE AND NUMERICAL METHODS OF SOME PARTICULAR BOUNDARY VALUE PROBLEMS AND INITIAL VALUE PROBLEMS, Postgraduate, G.GÜMÜŞ(Student), 2008
- AYAZ F., Painleve analizi ile bazı lineer olmayan kısmi türevli denklemlerin integrallenebilirliği ve soliton çözümleri üzerine, Doctorate, F.KANGALGİL(Student), 2008
- AYAZ F., Kısmi türevli diferansiyel denklemlerin çözümünde iki boyutlu diferansiyel dönüşüm ve adomian ayrıştırma metodlarının karşılaştırılması, Postgraduate, S.ALTUN(Student), 2004
- AYAZ F., Şırnak ilköğretim okullarında Türkçe'nin etkin kullanımının matematik eğitimi açısından değerlendirilmesi, Postgraduate, E.BAY(Student), 2000

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **A New Technique for Solving Fractional Order Systems Hermite Collocation Method**
Pırım N. A., Ayaz F.
Applied Mathematics, vol.7, no.18, pp.2307-2323, 2016 (SCI-Expanded)
- II. **FRACTIONAL CAPUTO HEAT EQUATION WITHIN THE DOUBLE LAPLACE TRANSFORM**
Anwar A. M. O., Jarad F., Baleanu D., Ayaz F.
ROMANIAN JOURNAL OF PHYSICS, vol.58, pp.15-22, 2013 (SCI-Expanded)
- III. **SOLITARY WAVE SOLUTIONS FOR HIROTA-SATSUMA COUPLED KdV EQUATION AND COUPLED mKdV EQUATION BY DIFFERENTIAL TRANSFORM METHOD**
Kangalgil F., AYAZ F.
ARABIAN JOURNAL FOR SCIENCE AND ENGINEERING, vol.35, pp.203-213, 2010 (SCI-Expanded)
- IV. **Solitary wave solutions for the KdV and mKdV equations by differential transform method**
Kangalgil F., AYAZ F.
CHAOS SOLITONS & FRACTALS, vol.41, no.1, pp.464-472, 2009 (SCI-Expanded)
- V. **New exact travelling wave solutions for the Ostrovsky equation**
Kangalgil F., AYAZ F.
PHYSICS LETTERS A, vol.372, no.11, pp.1831-1835, 2008 (SCI-Expanded)
- VI. **Modelling age- and density-structured reproductive biology and seasonal survival of *Apanteles galleriae* Wilkinson (Hym., Braconidae)**
UÇKAN F., Ergin E., Ayaz F.
JOURNAL OF APPLIED ENTOMOLOGY, vol.128, no.6, pp.407-413, 2004 (SCI-Expanded)

- VII. **Applications of differential transform method to differential-algebraic equations**
Ayaz F.
APPLIED MATHEMATICS AND COMPUTATION, vol.152, no.3, pp.649-657, 2004 (SCI-Expanded)
- VIII. **Solutions of the system of differential equations by differential transform method**
Ayaz F.
APPLIED MATHEMATICS AND COMPUTATION, vol.147, no.2, pp.547-567, 2004 (SCI-Expanded)
- IX. **On the two-dimensional differential transform method**
Ayaz F.
APPLIED MATHEMATICS AND COMPUTATION, vol.143, pp.361-374, 2003 (SCI-Expanded)
- X. **Dissolution kinetics of ulexite in aqueous EDTA solutions**
Alkan M., Cifci C., Ayaz F., Dogan M.
CANADIAN METALLURGICAL QUARTERLY, vol.39, no.4, pp.433-439, 2000 (SCI-Expanded)
- XI. **Flow through and particle interception by an infinite array of closely-spaced circular cylinders**
Ayaz F., Pedley T.
EUROPEAN JOURNAL OF MECHANICS B-FLUIDS, vol.18, no.2, pp.173-196, 1999 (SCI-Expanded)

Articles Published in Other Journals

- I. **Fractional model for blood flow under MHD influence in porous and non-porous media**
AYAZ F., Heredağ K.
International Journal of Optimization and Control: Theories and Applications, vol.14, no.2, pp.156-167, 2024 (ESCI)
- II. **Approximate solution for magnetohydrodynamics fluid flow between two circular discs**
AYAZ F., Yetim H., Pirim Akgönüllü N.
International Journal of Mechanical Engineering, vol.3, pp.1-8, 2018 (Scopus)
- III. **Hermite collocation method for fractional order differential equations**
AYAZ F., Akgönüllü Pirim N.
An International Journal of Optimization and Control: Theories Applications, vol.8, no.2, pp.228-236, 2018 (Scopus)
- IV. **Solution of model equation of completely passive natural convection by improved differential transform method**
AYAZ F., EKİCİ M.
Cross Ref, vol.3, pp.1-10, 2017 (Peer-Reviewed Journal)
- V. **A Hybrid Method for Solving Some Particular Types of Fractional Differential Equations**
AYAZ F., Görgülü O.
A Hybrid Method for Solving Some Particular Types of Fractional Differential Equations, vol.2, pp.6-12, 2017 (Peer-Reviewed Journal)
- VI. **Solution of linear and nonlinear heat equations by differential transform method**
KANGALGİL F., AYAZ F.
Selçuk Journal of applied Mathematics, vol.8, no.1, pp.75-85, 2007 (Peer-Reviewed Journal)
- VII. **An Approximate solution of Burgers Equation by differential transform method**
AYAZ F., OTURANÇ G.
Selçuk Journal of Applied Mathematics, vol.5, no.2, pp.15-24, 2004 (Peer-Reviewed Journal)

Books & Book Chapters

- I. **Python Destekli Sayısal Analiz**
AYAZ F., ÇIBİK A. B., Haçat G.
seçkin yayıncılık, Ankara, 2024
- II. **A Numerical Approach for Variable Order Fractional Equations**

Ayaz F., Bektas İ.

in: Numerical Solutions of Realistic Nonlinear Phenomena, J.A.Tanreiro Machado, Necati Özdemir, Dumitru Baleanu, Editor, Springer, Altdorf, pp.195-212, 2020

Refereed Congress / Symposium Publications in Proceedings

- I. **Formulation and effectiveness Hand Sanitizer close leaf oil (*Syzygium aromaticum* L.) and curcuma extract (*Curcuma xanthorrhiza* R.)**
Widhyastuty S., Harismah K., Mirzaei M., AYZAZ F.
2021 International Summit on Education, Technology and Humanity, ISETH 2021, Surakarta, Indonesia, 20 - 21 December 2021, vol.2727
- II. **ESTIMATION OF PARAMETERS IN DYNAMIC SYSTEMS USING THE HYBRID HOMOTOPY ANALYSIS METHOD WITH THE MULTI-OBJECTIVE GENETIC ALGORITHM**
F Qasim O., F Qasim A., AYZAZ F., Enver A.
4th International Conference on Computational Mathematics and engineering Sciences (CMES'xx2019), Antalya, Turkey, 20 - 22 April 2019, pp.463-481
- III. **MHD Flow for Different Flow Geometries**
AYAZ F., YETİM H.
International Conference on Mathematics and Mathematics education, Urfa, Turkey, 11 - 13 May 2017
- IV. **An Approximate Technique for Variable Order Fractional Equations**
AYAZ F., BEKTAS İ.
International Conference on Mathematics and Mathematics Education, Urfa, Turkey, 11 - 13 May 2017
- V. **A numerical Approach for solving multi-term Fractional Order Differential Equations**
AYAZ F., GORGULU O.
Çankaya Üniversitesi, Ankara, Turkey, 27 - 29 April 2017
- VI. **A-hybrid method for solving some particular types of fractional order equations**
Ayaz F., Gorgulu O.
AMATH'xx17 AIKED'xx17 Applications of Informatics in Mathematical Models, Cambridge, Canada, 24 January - 27 April 2017
- VII. **A Taylor Polynomial Solution to Fluid Flow and Heat Transfer in a Permeable Channel**
AYAZ F., Yetim H.
Emerging Trends in Applied Mathematics and Mechanics (ETAMM 2016), Perpignan, France, 30 May - 03 June 2016
- VIII. **Solution of the model of beam type micro and nano scale electrostatic actuators by differential transform method for nonlinear boundary value problem**
EKİCİ M., AYZAZ F.
The International Journal of Arts and Sciences, Boston, 26 - 30 May 2015

Activities in Scientific Journals

An International Journal of Optimization and Control: Theories & Applications (IJOCTA), Scientific Committee Membership, 2016 - Continues

Metrics

Publication: 29

Citation (WoS): 650

Citation (Scopus): 736

H-Index (WoS): 9

H-Index (Scopus): 9

Awards

Engin T., Cerit C., Ayaz F., 2013 TÜBA-TEÇEP Çeviri Eser Ödülü, Türkiye Bilimler Akademisi, April 2014

Non Academic Experience

Balıkesir Üniversitesi

Bozkurt Lisesi