Prof. VİLDAN GÜLKAÇ

Personal Information

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Education Information

Doctorate, Inonu University, Fen Bilimleri Enstitüsü, Matematik, Turkey 1989 - 1994
Postgraduate, Inonu University, Fen Bilimleri Enstitüsü, Matematik, Turkey 1986 - 1989
Undergraduate, Inonu University, Fen-Edebiyat Fakültesi, Matematik, Turkey 1982 - 1986

Foreign Languages

English, B2 Upper Intermediate

Dissertations

Doctorate, Konvektif sınır koşullu erime (Fusion) problemlerinin ters(Boadways) dönüşümlerle sayısal çözümü, Kocaeli Üniversitesi, Fen-Edebiyat Fakültesi, Matematik Bölümü, 1994

Research Areas

Differential Equations, Functional Equations, Integral Transformations, Computational Calculation, Partial Differential Equations

Academic Titles / Tasks

Professor, Kocaeli University, Fen Edebiyat Fakültesi, Matematik, 2018 - Continues
Associate Professor, Kocaeli University, Fen Edebiyat Fakültesi, Matematik, 2012 - 2018
Assistant Professor, Kocaeli University, Fen Edebiyat Fakültesi, Matematik, 1995 - 2012
Assistant Professor, Inonu University, Fen-Edebiyat Fakültesi, Matematik Bölümü, 1995 - 1995
Research Assistant, Inonu University, Fen-Edebiyat Fakültesi, Matematik Bölümü, 1987 - 1995

Advising Theses

Gülkaç V., Kesirli türev içeren difüzyon denkleminin Laplace dönüşümü metodu ile kaynak fonksiyonunun bulunması, Postgraduate, S.DEDEOĞLU(Student), 2019
Gülkaç V., Doğrusal olmayan dalga denklemlerinin chebyshev polinomu ile nümerik çözümü, Postgraduate, Ö.YANAZ(Student), 2002

Published journal articles indexed by SCI, SSCI, and AHCI

I. **The New Approximate Analytic Solution for Oxygen Diffusion Problem with Time-Fractional Derivative**
GÜLKAÇ V.
MATHEMATICAL PROBLEMS IN ENGINEERING, 2016 (SCI-Expanded)

II. **A Method of Finding Source Function for Inverse Diffusion Problem with Time-Fractional Derivative**
GÜLKAÇ V.
ADVANCES IN MATHEMATICAL PHYSICS, 2016 (SCI-Expanded)

III. **Numerical Solutions of Two-Dimensional Burgers' Equations**
GÜLKAÇ V.
International Journal of Scientific and Engineering Research, vol.6, no.4, pp.215-218, 2015 (SCI-Expanded)

IV. **The homotopy perturbation method for the Black-Scholes equation**
Gulkac V.
JOURNAL OF STATISTICAL COMPUTATION AND SIMULATION, vol.80, no.12, pp.1349-1354, 2010 (SCI-Expanded)

V. **Comparative study between two numerical methods for oxygen diffusion problem**
Gulkac V.
COMMUNICATIONS IN NUMERICAL METHODS IN ENGINEERING, vol.25, no.8, pp.855-863, 2009 (SCI-Expanded)

VI. **On the finite differences schemes for the numerical solution of two-dimensional moving boundary problem**
Gulkac V.
APPLIED MATHEMATICS AND COMPUTATION, vol.168, no.1, pp.549-556, 2005 (SCI-Expanded)

VII. **On a LOD method for solution of two dimensional fusion problem with convective boundary conditions**
Gulkac V., Ozis T.
INTERNATIONAL COMMUNICATIONS IN HEAT AND MASS TRANSFER, vol.31, no.4, pp.597-606, 2004 (SCI-Expanded)

VIII. **Numerical solution of two-dimensional Schrodinger equation by Boadway's transformation**
Gulkac V.
INTERNATIONAL JOURNAL OF COMPUTER MATHEMATICS, vol.80, no.12, pp.1543-1548, 2003 (SCI-Expanded)

IX. **Application of variable interchange method for solution of two-dimensional fusion problem with convective boundary conditions**
Ozis T., Gulkac V.
NUMERICAL HEAT TRANSFER PART A-APPLICATIONS, vol.44, no.1, pp.85-95, 2003 (SCI-Expanded)

Articles Published in Other Journals

I. **ANALYSIS OF TWO DIMENSIONAL PARABOLIC EQUATION WITH PERIODIC BOUNDARY CONDITIONS**
GÜLKAÇ V., BAĞLAN İ.
COMMUNICATIONS FACULTY OF SCIENCES UNIVERSITY OF ANKARA-SERIES A1 MATHEMATICS AND STATISTICS, vol.67, pp.328-334, 2018 (Peer-Reviewed Journal)

II. **Application of Variable Interchange Method for Solution of Two-Dimensional Burgers'xx Equations**
GÜLKAÇ V.
New Trends in Mathematical Science, vol.1, no.5, pp.158-163, 2017 (Peer-Reviewed Journal)

III. **A Linearized Iterative Method for Solving Two-Dimensional Non-Linear Burgers' Equations**
GÜLKAÇ V.
Asian Journal of Mathematics and Computer Research, vol.19, no.1, pp.1-8, 2017 (Peer-Reviewed Journal)

IV. **Numerical Approach for the Two-Dimensional Heat Equation Problemwith Convective Boundary Conditions**
GÜLKAÇ V.

Sakarya University Journal of Science (SAUJS), vol.21, no.1, pp.343-349, 2017 (Peer-Reviewed Journal)

V. **An Extrapolation Method for Oxygen Diffusion Problem**
GÜLKAÇ V.
International Journal of Scientific and Engineering Research, vol.6, no.4, pp.222-226, 2015 (Peer-Reviewed Journal)

VI. **An Implicit Finite-Difference Method for Solving the Heat TransferEquation**
GÜLKAÇ V.
International Journal of Scientific and Innovative Mathematical Research, vol.3, no.2, pp.39-44, 2015 (Peer-Reviewed Journal)

VII. **Comparative Study Analytic and Numerical Methods for Solving Non Linear Black Scholes Equation with European Call Option**
GÜLKAÇ V.
International Journal of Scientific and Innovative Mathematical Research, vol.3, no.2, pp.66-78, 2015 (Peer-Reviewed Journal)

VIII. **A numerical solution of the two-dimensional fusion problem with convective boundary conditions**
GÜLKAÇ V.
International Journal of Computational Methods in Engineering Science and Mechanics, vol.11, no.1, pp.20-26, 2010 (Scopus)

IX. **Numerical Solution of One-Dimensional Stefan-Like Problems Using ThreeTime-Level Method**
GÜLKAÇ V.
Ozean Journal of Applied Sciences, vol.2, no.1, pp.19-24, 2009 (Peer-Reviewed Journal)

X. **A Numerical Application of the Semi-Implicit Pseudo-Spectral Method for the Korteweg-de Vries Equation**
GÜLKAÇ V., ÖZİŞ T.
Ozean Journal of Applied Sciences, vol.2, no.1, pp.25-31, 2009 (Peer-Reviewed Journal)

XI. **Treatment of Two-Dimensional Moving Boundary Problem by Boadway's Transformation**
GÜLKAÇ V., ÖZİŞ T.
Bulletin Calcutta Math. Soc., vol.88, pp.253-260, 1996 (Peer-Reviewed Journal)

Refereed Congress / Symposium Publications in Proceedings

I. **Analytic Method of Finding Source Function for Diffusion Problem WithTime-Fractional Derivative**
DEDEOĞLU S., GÜLKAÇ V.
ICAAMM 2017, İstanbul, Turkey, 3 - 07 July 2017

II. **Explicit Finite Difference Method For Solution of Heat Diffusion Wave Equation with Mix Fractional Derivatives**
GÜLKAÇ V.
5th International Eurasian Conference on Mathematical Sciences and Applications, Belgrade, Serbia And Montenegro, 16 - 19 August 2016

III. **Numerical Approach for The Two Dimensional Fusion Problem with Convective Boundary Conditions**
GÜLKAÇ V.
International Conference on Mathematics and Mathematics Education, Elazığ, Turkey, 12 - 14 May 2016

IV. **KdV Denklemi için Chebyshev Seri Çözümü**
GÜLKAÇ V., YANAZ ÇINAR Ö.
XIV. Ulusal Matematik Sempozyumu, Eskişehir, Turkey, 19 - 21 September 2001, pp.100

Metrics

Publication: 24

Citation (WoS): 55
Citation (Scopus): 65
H-Index (WoS): 5
H-Index (Scopus): 5

Non Academic Experience

Debrecen Üniversitesi