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Personal Information

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International Researcher IDs

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Education Information

Doctorate, Eskisehir Osmangazi University, FEN BİLİMLERİ ENSTİTÜSÜ, Matematik (Dr), Turkey 1998 - 2002

Postgraduate, Eskisehir Osmangazi University, FEN BİLİMLERİ ENSTİTÜSÜ, Matematik (YI) (Tezli), Turkey 1995 - 1998

Undergraduate, Eskisehir Osmangazi University, Fen-Edebiyat Fakültesi, Matematik Bölümü, Turkey 1991 - 1995

Dissertations

Doctorate, RLW ve K-S denklemlerinin B-spline kolokeyşin metodları ile çözümleri, Eskisehir Osmangazi University, FEN BİLİMLERİ ENSTİTÜSÜ, Matematik (Dr), 2002

Postgraduate, Parabolik denklemlerin nümerik çözümleri, Eskisehir Osmangazi University, FEN BİLİMLERİ ENSTİTÜSÜ, Matematik (YI) (Tezli), 1998

Research Areas

Differential Equations, Functional Equations, Fourier Analysis, General Mathematics, Integral Equations, Integral Transformations, Computational Calculation, Partial Differential Equations, Special Functions, Numerical Analysis

Academic Titles / Tasks

Professor, Eskisehir Osmangazi University, Fen Fakültesi, Matematik Ve Bilgisayar Bilimleri Bölümü, 2015 - Continues
Associate Professor, Eskisehir Osmangazi University, Fen Fakültesi, Matematik Ve Bilgisayar Bilimleri Bölümü, 2010 - 2015

Assistant Professor, Eskisehir Osmangazi University, Fen Fakültesi, Matematik Ve Bilgisayar Bilimleri Bölümü, 2003 - 2010

Research Assistant, Eskisehir Osmangazi University, Fen Fakültesi, Matematik Ve Bilgisayar Bilimleri Bölümü, 1995 - 2003

Academic and Administrative Experience

Dean, Eskisehir Osmangazi University, FEN FAKÜLTESİ, MATEMATİK VE BİLGİSAYAR BİLİMLERİ BÖLÜMÜ, 2022 - Continues

Vice Dean, Eskisehir Osmangazi University, Fen Fakültesi, Matematik Ve Bilgisayar Bilimleri Bölümü, 2016 - 2016
Vice Dean, Eskisehir Osmangazi University, Fen Fakültesi, Matematik Ve Bilgisayar Bilimleri Bölümü, 2010 - 2013
Deputy Head of Department, Eskisehir Osmangazi University, Fen Fakültesi, Matematik Ve Bilgisayar Bilimleri Bölümü, 2004 - 2010

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **High Order Predictor–Corrector Cubic B-Spline Collocation Method for Modeling Solitary Waves**
SAKA B., ERSOY HEPSON Ö., DAĞ İ.
Proceedings of the National Academy of Sciences India Section A - Physical Sciences, vol.94, no.1, pp.83-98, 2024 (SCI-Expanded)
- II. **Modeling of solitary waves via higher-order predictor-corrector scheme**
SAKA B., ERSOY HEPSON Ö., DAĞ İ.
Journal of Taibah University for Science, vol.18, no.1, 2024 (SCI-Expanded)
- III. **Integration of the RLW equation using higher-order predictor–corrector scheme and quintic B-spline collocation method**
SAKA B., DAĞ İ., ERSOY HEPSON Ö.
Mathematical Sciences, vol.17, no.4, pp.491-502, 2023 (SCI-Expanded)
- IV. **A higher-order efficient approach to numerical simulations of the RLW equation**
DAĞ İ., ERSOY HEPSON Ö., SAKA B.
Pramana - Journal of Physics, vol.96, no.1, 2022 (SCI-Expanded)
- V. **The cubic B-spline least-squares finite-element method for the numerical solutions of regularized long-wave equation**
Hepson Ö., Dağ İ., Saka B., Ay B.
International Journal of Computer Mathematics, vol.99, no.5, pp.993-1004, 2022 (SCI-Expanded)
- VI. **Solitary waves of the RLW equation via least squares method**
Ersoy Hepson Ö., Dağ İ., Saka B., Ay B.
International Journal Of Nonlinear Sciences And Numerical Simulation, vol.0, 2021 (SCI-Expanded)
- VII. **A QUARTIC B-SPLINE COLLOCATION METHOD FOR SOLVING THE NONLINEAR SCHRÖDINGER EQUATION**
Saka B.
APPLIED AND COMPUTATIONAL MATHEMATICS, vol.14, no.1, pp.75-86, 2015 (SCI-Expanded)
- VIII. **A quintic B-spline finite-element method for solving the nonlinear Schrödinger equation**
Saka B.
PHYSICS OF WAVE PHENOMENA, vol.20, no.2, pp.107-117, 2012 (SCI-Expanded)
- IX. **B-Spline Collocation Algorithms for Numerical Solution of the RLW Equation**
SAKA B., Sahin A., Dag İ.
NUMERICAL METHODS FOR PARTIAL DIFFERENTIAL EQUATIONS, vol.27, no.3, pp.581-607, 2011 (SCI-Expanded)
- X. **Cosine Expansion-Based Differential Quadrature Algorithm for Numerical Solution of the RLW Equation**
Dag İ., Korkmaz A., SAKA B.
NUMERICAL METHODS FOR PARTIAL DIFFERENTIAL EQUATIONS, vol.26, no.3, pp.544-560, 2010 (SCI-Expanded)
- XI. **Quartic B-spline Galerkin approach to the numerical solution of the KdVB equation**
Saka B., DaG İ.
APPLIED MATHEMATICS AND COMPUTATION, vol.215, no.2, pp.746-758, 2009 (SCI-Expanded)
- XII. **Cosine expansion-based differential quadrature method for numerical solution of the KdV equation**
Saka B.
CHAOS SOLITONS & FRACTALS, vol.40, no.5, pp.2181-2190, 2009 (SCI-Expanded)
- XIII. **A numerical solution of the RLW equation by Galerkin method using quartic B-splines**
Saka B., Dag İ.

- COMMUNICATIONS IN NUMERICAL METHODS IN ENGINEERING, vol.24, no.11, pp.1339-1361, 2008 (SCI-Expanded)
- XIV. **A numerical study of the Burgers' equation**
Saka B., Dag İ.
JOURNAL OF THE FRANKLIN INSTITUTE-ENGINEERING AND APPLIED MATHEMATICS, vol.345, no.4, pp.328-348, 2008 (SCI-Expanded)
- XV. **Three different methods for numerical solution of the EW equation**
Saka B., Dag İ., DERELİ Y., Korkmaz A.
ENGINEERING ANALYSIS WITH BOUNDARY ELEMENTS, vol.32, no.7, pp.556-566, 2008 (SCI-Expanded)
- XVI. **A B-spline algorithm for the numerical solution of Fisher's equation**
Sahin A., Dag İ., Saka B.
KYBERNETES, vol.37, pp.326-342, 2008 (SCI-Expanded)
- XVII. **Quintic B-spline collocation method for numerical solution of the RLW equation**
Saka B., Dag İ., IRK D.
ANZIAM JOURNAL, vol.49, no.3, pp.389-410, 2008 (SCI-Expanded)
- XVIII. **Quartic B-spline collocation method to the numerical solutions of the Burgers' equation**
Saka B., Dag İ.
CHAOS SOLITONS & FRACTALS, vol.32, no.3, pp.1125-1137, 2007 (SCI-Expanded)
- XIX. **Algorithms for numerical solution of the modified equal width wave equation using collocation method**
Saka B.
MATHEMATICAL AND COMPUTER MODELLING, vol.45, pp.1096-1117, 2007 (SCI-Expanded)
- XX. **Quartic B-spline collocation algorithms for numerical solution of the RLW equation**
Saka B., Dag İ.
NUMERICAL METHODS FOR PARTIAL DIFFERENTIAL EQUATIONS, vol.23, no.3, pp.731-751, 2007 (SCI-Expanded)
- XXI. **Galerkin method for the numerical solution of the RLW equation using quintic B-splines**
Dag İ., Saka B., Irk D.
JOURNAL OF COMPUTATIONAL AND APPLIED MATHEMATICS, vol.190, pp.532-547, 2006 (SCI-Expanded)
- XXII. **A finite element method for equal width equation**
Saka B.
APPLIED MATHEMATICS AND COMPUTATION, vol.175, no.1, pp.730-747, 2006 (SCI-Expanded)
- XXIII. **A small time solutions for the Korteweg-de Vries equation using spline approximation**
Irk D., Dag İ., Saka B.
APPLIED MATHEMATICS AND COMPUTATION, vol.173, no.2, pp.834-846, 2006 (SCI-Expanded)
- XXIV. **B-spline Galerkin methods for numerical solutions of the Burgers' equation**
Dag İ., Saka B., Boz A.
APPLIED MATHEMATICS AND COMPUTATION, vol.166, no.3, pp.506-522, 2005 (SCI-Expanded)
- XXV. **A numerical solution of the Burgers' equation using cubic B-splines**
Dag İ., Irk D., Saka B.
APPLIED MATHEMATICS AND COMPUTATION, vol.163, no.1, pp.199-211, 2005 (SCI-Expanded)
- XXVI. **A collocation method for the numerical solution of the RLW equation using cubic B-spline basis**
Saka B., Dag İ.
ARABIAN JOURNAL FOR SCIENCE AND ENGINEERING, vol.30, pp.39-50, 2005 (SCI-Expanded)
- XXVII. **Application of cubic B-splines for numerical solution of the RLW equation**
Dag İ., Saka B., Irk D.
APPLIED MATHEMATICS AND COMPUTATION, vol.159, no.2, pp.373-389, 2004 (SCI-Expanded)
- XXVIII. **Galerkin method for the numerical solution of the RLW equation using quadratic B-splines**
Saka B., Dag İ., Dogan A.
INTERNATIONAL JOURNAL OF COMPUTER MATHEMATICS, vol.81, no.6, pp.727-739, 2004 (SCI-Expanded)
- XXIX. **B-spline collocation methods for numerical solutions of the RLW equation**
Dag İ., Dogan A., Saka B.

Articles Published in Other Journals

- I. **A septic b-spline finite element method for solving the nonlinear schrodinger equation**
SAKA B., DAĞ İ.
Advanced Studies in Contemporary Mathematics (Kyungshang), vol.26, no.3, pp.527-540, 2016 (Scopus)
- II. **A septic B spline finite element method for solving the nonlinear Schrödinger equation**
SAKA B., DAĞ İ.
advanced studies in contemporary mathematics, vol.26, no.3, pp.527-540, 2016 (Scopus)
- III. **A Septic B spline Finite Element Method for Solving the Nonlinear Schrödinger Equation**
SAKA B., DAĞ İ.
Advanced Studies in Contemporary Mathematics, vol.26, no.3, pp.527-540, 2016 (Peer-Reviewed Journal)
- IV. **Numerical Solution of the Modified Burgers Equation by the Quintic B spline Galerkin Finite Element Method**
SAKA B., DAĞ İ., IRK D.
International Journal of Mathematics and Statistics, vol.1, pp.86-98, 2007 (Peer-Reviewed Journal)
- V. **Numerical Solutions of the modified Burgers Equation by the Quintic B spline Galerkin Finite Element Method**
SAKA B., DAĞ İ., IRK D.
International Journal of Mathematics and Statistics, vol.1, pp.86-97, 2007 (Peer-Reviewed Journal)
- VI. **A Cubic B spline Collocation Method for the EW Equation**
DAĞ İ., SAKA B.
Mathematical and Computational Applications, vol.9, pp.381-392, 2005 (Peer-Reviewed Journal)
- VII. **Burger Denklemine Sayısal Çözümleri İçin Sonlu Fark Metotları**
SAKA B., IRK D.
DPÜ Fen Bilimleri Enstitüsü Dergisi, vol.5, pp.87-96, 2003 (Peer-Reviewed Journal)
- VIII. **Finite Difference Methods for Numerical Solutions of the RLW Equation**
SAKA B.
Pure and Applied Matematika Sciences, pp.43-52, 2003 (Peer-Reviewed Journal)
- IX. **A Numerical Study of the Equal Width Equation Hadronic Journal Supplement**
SAKA B., IRK D., DAĞ İ.
Hadronic Journal Supplement, vol.18, no.1, pp.99-115, 2003 (Peer-Reviewed Journal)
- X. **A numerical study of the equal width equation**
SAKA B., IRK D., DAĞ İ.
Hadronic Journal Supplement, vol.1, pp.99-115, 2003 (Peer-Reviewed Journal)
- XI. **Cubic Spline Collocation Method for the Equal Width Equation**
IRK D., SAKA B., DAĞ İ.
Hadronic Journal Supplement, vol.18, pp.201-214, 2003 (Peer-Reviewed Journal)
- XII. **Numerical study of the equal width wave equation**
SAKA B., IRK D., DAĞ İ.
Hadronic Journal of Supplementary, vol.18, pp.99-116, 2003 (Peer-Reviewed Journal)

Papers Published in Refereed Scientific Meetings

- I. **Least Squares Method for the numerical solution of Regularized Long Wave Equation**
SAKA B., ERSOY HEPSON Ö.
International Conference on Applied Analysis and Mathematical Modelling (ICAAMM2017), İstanbul, Turkey, 3 - 07 July 2017

- II. **Least Squares Method for the numerical solution of Burgers'xx Equation**
 SAKA B., ERSOY HEPSON Ö.
 International Conference on Applied Analysis and Mathematical Modelling (ICAAMM2017), İstanbul, Turkey, 3 - 07 July 2017
- III. **A Numerical Solution of the Kuramoto-Sivashinsky Equation by Collocation Method using Quintic Trigonometric B-spline**
 SAKA B., ZORŞAHİN GÖRGÜLÜ M., DAĞ İ.
 International Conference on Mathematics and Mathematics Education (ICMME-2017), 11 - 13 May 2017
- IV. **Quartic B-spline Galerkin Method for the Advection Diffusion Equation**
 IRK D., Ay B., SAKA B.
 Mathematical Methods in Engineering, MME-2017, Ankara, Turkey, 27 - 29 April 2017
- V. **A Quintic Trigonometric B-spline Collocation Method for Solving the Kuramoto-Sivashinsky Equation**
 SAKA B., ŞEBER Y., DAĞ İ.
 MATHEMATICAL METHODS IN ENGINEERING, MME-2017, Ankara, Turkey, 27 - 29 April 2017
- VI. **A Quartic Trigonometric B-spline Collocation Method for Solving the Kuramoto-Sivashinsky Equation**
 SAKA B., ERSOY HEPSON Ö., DAĞ İ.
 The International Workshop on Mathematical Methods in Engineering (MME2017), 27 - 29 April 2017
- VII. **A Numerical Solution of the RLW Equation by Least Squares Method**
 SAKA B., Çayır Aydar A., IRK D.
 Mathematical Methods in Engineering, MME-2017, Ankara, Turkey, 27 - 29 April 2017
- VIII. **A quintic trigonometric B-splines collocation method for solving the Kuramoto-Sivashinsky equation**
 SAKA B., DAĞ İ., Seber Y.
 International workshop on mathematical methods in engineering, Ankara, Turkey, 27 April 2016 - 29 April 2018
- IX. **A Quartic Trigonometric B spline Collocation Method for Solving the Nonlinear Schrödinger Equation**
 SAKA B., ZORŞAHİN GÖRGÜLÜ M.
 International Conference on Mathematics and Mathematics Education (ICMME-2016), Turkey, 12 - 14 May 2016
- X. **A Trigonometric B spline Finite Element Method for Equal Width Equation**
 SAKA B., ZORŞAHİN GÖRGÜLÜ M.
 International Conference on Mathematics and Mathematics Education (ICMME-2016), Turkey, 12 - 14 May 2016
- XI. **A Quintic Trigonometric B spline Finite Element Method for Solving the Nonlinear Schrödinger Equation**
 SAKA B., IRK D.
 International Conference on Mathematics and Mathematics Education (ICMME-2016), Turkey, 12 - 14 May 2016
- XII. **Quintic Trigonometric B spline Collocation Method to the Numerical Solution of the Burgers Equation**
 IRK D., SAKA B.
 International Conference on Mathematics and Mathematics Education (ICMME-2016), Turkey, 12 - 14 May 2016
- XIII. **Quintic Trigonometric B spline Collocation Method for Numerical Solution of the RLW Equation**
 SAKA B.
 International Conference on Natural Science and Engineering (ICNASE'16), Turkey, 19 - 20 March 2016
- XIV. **A Cubic B spline Algorithm for Numerical Solution of the KdVB equation**
 SAKA B., ZORŞAHİN GÖRGÜLÜ M.
 14. Matematik Sempozyumu, Turkey, 14 - 16 May 2015
- XV. **KdVB Denklemine Kübik B Spline Galerkin Yöntemiyle Nümerik Çözümü**
 SAKA B., ZORŞAHİN GÖRGÜLÜ M.
 14. Matematik Sempozyumu, Turkey, 14 - 16 May 2015
- XVI. **A Cubic B spline Galerkin Method for Solving the Nonlinear Schrödinger Equation**
 SAKA B., ÜLKER S.
 14. Matematik Sempozyumu, Turkey, 14 - 16 May 2015
- XVII. **Numerical Solutions of the RLW Equation Using Trigonometric Quadratic B splines Subdomain**

Galerkin method

SAKA B., ZORŞAHİN GÖRGÜLÜ M.

14. Matematik Sempozyumu, Turkey, 14 - 16 May 2015

XVIII. **A Septic B spline Finite Element Method for Solving the Nonlinear Schrödinger Equation**

SAKA B., DAĞ İ.

International Eurasian Conference on Mathematical Sciences and Applications, 25 - 28 August 2014

XIX. **A Sextic B spline Finite Element Method for Solving the Nonlinear Schrödinger Equation**

SAKA B., DAĞ İ.

Karatekin Mathematics Days, International Mathematics Symposium, 11 - 13 June 2014

XX. **Kuintik B spline Galerkin metodu ile KdV denkleminin sayısal çözümü**

SAKA B., DAĞ İ.

XX. Ulusal Matematik Sempozyumu, Turkey, 3 - 06 September 2007

XXI. **Quintic B spline Galerkin Method for Numerical Solutions of the Burgers Equation**

DAĞ İ., SAKA B., BOZ A.

Dynamical Systems and Applications, 5 - 10 July 2004, pp.295-309

Supported Projects

SAKA B., Project Supported by Higher Education Institutions, Kuramoto-Sivashinsky denkleminin yaklaşık çözümünün trigonometrik B-spline fonksiyonları yardımıyla bulunması, 2016 - 2017

Metrics

Publication: 62

Citation (WoS): 784

Citation (Scopus): 1043

H-Index (WoS): 16

H-Index (Scopus): 19

Non Academic Experience

Eskişehir Osmangazi Üniversitesi, Öğretim Üyesi