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International Researcher IDs

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Education Information

Doctorate, Istanbul Technical University, Fen-Edebiyat Fakültesi, Mühendislik Bilimleri Bölümü, Turkey 1999 - 2007

Postgraduate, Istanbul Technical University, Fen-Edebiyat Fakültesi, Mühendislik Bilimleri Bölümü, Turkey 1997 - 1999

Undergraduate, Istanbul Technical University, Fen-Edebiyat Fakültesi, Matematik Bölümü, Turkey 1991 - 1996

Foreign Languages

English

Dissertations

Doctorate, Hasarlı Malzemelerin Mikro Elastik Teorilerle Modellenmesi ve Eshelby Tansörleri, İstanbul Teknik Üniversitesi, Fen-Edebiyat Fakültesi, Mühendislik Bilimleri Bölümü, 2007

Postgraduate, Tek Serbestlik Dereceli Lineer Olmayan Salıncıların Yaklaşık Simetrisi ve İlk İntegralleri, İstanbul Teknik Üniversitesi, Fen-Edebiyat Fakültesi, Mühendislik Bilimleri Bölümü, 1999

Research Areas

Basic Sciences, Mathematics, Differential Equations, Numerical Analysis

Academic Titles / Tasks

Associate Professor, Istanbul Technical University, Fen-Edebiyat, Matematik Mühendisliği, 2017 - Continues

Assistant Professor, Istanbul Technical University, Fen-Edebiyat, Matematik Mühendisliği, 2010 - 2017

Lecturer PhD, Istanbul Technical University, Fen-Edebiyat, Matematik Mühendisliği, 2009 - 2010

Expert, Tufts University, Engineering Science, Mechanical Engineering, 2008 - 2009

Lecturer PhD, Istanbul Technical University, Fen-Edebiyat, Engineering Sciences, 2007 - 2008

Research Assistant, Istanbul Technical University, Fen-Edebiyat, Engineering Sciences, 1996 - 2007

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **The analysis and validation of natural frequencies and mode shapes of 3D plates in the framework of the generalized thermoelastic theory**
Aydinlik S., Kırış A., Sumelka W.
JOURNAL OF THERMAL STRESSES, vol.46, no.1, pp.43-58, 2023 (SCI-Expanded)
- II. **An effective approach based on Smooth Composite Chebyshev Finite Difference Method and its applications to Bratu-type and higher order Lane-Emden problems**
Aydinlik S., Kırış A., Roul P.
MATHEMATICS AND COMPUTERS IN SIMULATION, vol.202, pp.193-205, 2022 (SCI-Expanded)
- III. **First Order Smooth Composite Chebyshev Finite Difference Method for Solving Coupled Lane-Emden Problem in Catalytic Diffusion Reactions**
Aydinlik S., Kirisb A.
MATCH-COMMUNICATIONS IN MATHEMATICAL AND IN COMPUTER CHEMISTRY, vol.87, no.2, pp.463-476, 2022 (SCI-Expanded)
- IV. **Three-dimensional analysis of nonlocal plate vibration in the framework of space-fractional mechanics & mdash; Theory and validation**
Aydinlik S., Kırış A., Sumelka W.
THIN-WALLED STRUCTURES, vol.163, 2021 (SCI-Expanded)
- V. **Nonlocal vibration analysis of microstretch plates in the framework of space-fractional mechanics-theory and validation**
Aydinlik S., Kırış A., Sumelka W.
EUROPEAN PHYSICAL JOURNAL PLUS, vol.136, no.2, 2021 (SCI-Expanded)
- VI. **Fractional Calculus Approach to Nonlocal Three-Dimensional Vibration Analysis of Plates**
Aydinlik S., Kırış A.
AIAA JOURNAL, vol.58, no.1, pp.355-361, 2020 (SCI-Expanded)
- VII. **A high-order numerical method for solving nonlinear Lane-Emden type equations arising in astrophysics**
Aydinlik S., Kırış A.
ASTROPHYSICS AND SPACE SCIENCE, vol.363, no.12, 2018 (SCI-Expanded)
- VIII. **Identification of the material properties of microisotropic materials**
Kırış A., Inan E.
Journal of Vibration Engineering and Technologies, vol.3, no.3, pp.237-252, 2015 (SCI-Expanded)
- IX. **Contacts and cracks of complex shapes: Crack-contact dualities and relations between normal and shear compliances**
Kiris A., Kachanov M.
INTERNATIONAL JOURNAL OF ENGINEERING SCIENCE, vol.50, no.1, pp.233-255, 2012 (SCI-Expanded)
- X. **On the identification of microstretch elastic moduli of materials by using vibration data of plates**
Kırış A., Inan E.
INTERNATIONAL JOURNAL OF ENGINEERING SCIENCE, vol.46, no.6, pp.585-597, 2008 (SCI-Expanded)
- XI. **Eshelby tensors for a spherical inclusion in microstretch elastic fields**
Kiris A., INAN E.
INTERNATIONAL JOURNAL OF SOLIDS AND STRUCTURES, vol.43, no.16, pp.4720-4738, 2006 (SCI-Expanded)
- XII. **Eshelby tensors for a spherical inclusion in microelongated elastic fields**
Kiris A., INAN E.
INTERNATIONAL JOURNAL OF ENGINEERING SCIENCE, vol.43, pp.49-58, 2005 (SCI-Expanded)

Articles Published in Other Journals

- I. **AN EFFICIENT METHOD FOR SOLVING FRACTIONAL INTEGRAL AND DIFFERENTIAL EQUATIONS OF BRATU TYPE**

Aydınlık S., Kırış A.

Turkish World Mathematical Society Journal of Applied and Engineering Mathematics, vol.14, no.1, pp.94-102, 2024 (ESCI)

II. Mikro Hasarlı Plakların Riesz-Caputo Kesirli Türevi ile Titreşim Analizi (TR Dizin)

AYDINLIK S., KIRIŞ A.

Afyon Kocatepe Üniversitesi Fen ve Mühendislik Bilimleri Dergisi, vol.22, no.5, pp.989-997, 2022 (Peer-Reviewed Journal)

III. An Efficient Method for Solving Fractional Integral and Differential Equations of Bratu Type (Accepted-ESCI-Uluslararası)

AYDINLIK S., KIRIŞ A.

Turkish World Mathematical Society Journal of Applied and Engineering Mathematics, 2022 (Peer-Reviewed Journal)

IV. Doğrusal Olmayan Tekil Sınır Değer Problemlerinin Chebyshev Sonlu Farklar Yöntemi ile Çözümü (TR Dizin)

AYDINLIK S., KIRIŞ A.

International journal of advances in engineering and pure sciences (Online), 2021 (Peer-Reviewed Journal)

V. Approximate first integrals of nonlinear oscillators with one degree of freedom

ÜNAL G., KIRIŞ A.

ARI - An International Journal for Physical and Engineering Sciences, vol.51, no.4, pp.258-267, 1999 (Scopus)

Refereed Congress / Symposium Publications in Proceedings

I. CHEBYSHEV SONLU FARKLAR YÖNTEMİ İLE ADİ TÜREVLİ TEKİL PERTÜRBASYON SINIR DEĞER PROBLEMLERİNİN ÇÖZÜMÜ

AYDINLIK S., KIRIŞ A.

3. ULUSAL BAŞKENT DİSİPLİNLER ARASI BİLİMSEL ÇALIŞMALAR KONGRESİ, İZDAS, 14 March 2021

II. Vibration Analysis of Microelongated Plates With Riesz Caputo Fractional Derivative

AYDINLIK S., KIRIŞ A.

5rd International Mediterranean Science and Engineering Congress IMSEC, 21 October 2020

III. An efficient numerical method for solving nonlinear singular boundary value problems arising in various physical models

AYDINLIK S., KIRIŞ A.

3rd International Conference on Pure and e-Applied Mathematics ICPAM-VAN, 03 September 2020

IV. Chebyshev Finite Difference Method To Solve Fractional Bratu Type And Fractional Nonlinear Lane Emden-Type Equations

AYDINLIK S., KIRIŞ A.

International Conference on Multidisciplinary Sciences, ICOMUS, 22 August 2019

V. A HIGH-ORDER NUMERICAL METHOD FOR SOLVING BRATU-TYPE PROBLEMS

AYDINLIK S., KIRIŞ A.

International Conference on Multidisciplinary Sciences, ICOMUS, 22 August 2019

VI. Naive Bayes Yöntemiyle Potansiyel Karavan Sigorta müşterisi Tahmini

TUNGA B., Beyza Ş., KIRIŞ A.

12. İstanbul Bilişim Kongresi – İBK-2018, Turkey, 06 December 2018

VII. Viskozitenin basınca bağlı olduğu akışkanların rijit tüp içerisinde akımı

Sıkdokur İ., ÖZER S. S., KIRIŞ A., ERCENGİZ A.

20. Ulusal Mekanik Kongresi, Bursa, Turkey, 5 - 09 September 2017, pp.515-524

VIII. Free vibration of composite sandwich beams with microstretch viscoelastic core

AYDINLIK S., KIRIŞ A., İNAN E.

ICOVP, 13th International Conference on Vibration Problems, 29 November 2017

IX. Viskozitenin Basınca Bağlı olduğu Akışkanların Rijid Tüp İçerisinde Akımı

Sıkdokur İ., Özer S. S., Kırış A., Ercengiz A.

Ulusal Mekanik Kongresi, Bursa, Turkey, 5 - 09 September 2017, pp.515-524

- X. **Numerical solution of nonlocal wave propagation problem in thermoelastic plates using Chebyshev finite difference method**
ÜNAL G., KIRIŞ A.
12th International Conference on Vibration Problems (ICOVP), Ljubljana, Slovenia, 7 - 10 September 2015
- XI. **Talent scouting in basketball using an expert system based on fuzzy logic data mining classification techniques**
Kırış A., Arslanoğlu B., Günay S. Y.
1st International Symposium of Sports Science, Engineering and Technology, İstanbul, Turkey, 10 - 13 May 2015
- XII. **Identification of the material properties of microisotropic materials**
ÜNAL G., KIRIŞ A.
11th International Conference on Vibration Problems (ICOVP), Lisbon, Portugal, 9 - 12 September 2013, pp.376
- XIII. **Thermo-microstretch elastic bodies and plane waves**
Inan E., Kiriş A.
12th International Symposium on Continuum Models and Discrete Systems (CMDs-12), Kolkata, India, 21 - 25 February 2011, vol.319
- XIV. **A Hollow Cylinder Problem in Microstretch Theory**
Inan E., Kırış A.
10th Biennial International Conference on Vibration Problems (ICOVP), Prague, Czech Republic, 5 - 08 September 2011, vol.139, pp.241-247
- XV. **Mikroizotropik malzemelerde dalga yayılımı ve titreşim analizi ile malzeme sabitlerinin elde edilmesi**
KIRIŞ A., İNAN E.
Teorik ve Uygulamalı Mekanik Türk Milli Komitesi 17. Ulusal Mekanik Kongresi, Elazığ, Turkey, 5 - 09 September 2011
- XVI. **Mikrogermeli Ortamlarda Malzeme Sabitleri**
KIRIŞ A., İNAN E.
Teorik ve Uygulamalı Mekanik Türk Milli Komitesi 16. Ulusal Mekanik Kongresi, Kayseri, Turkey, 22 - 26 June 2009, pp.709-717
- XVII. **Mikrogermeli Plaklarda Dalga Yayılımı ve Farklı Sınır Koşulları için Titreşim Analizi**
KIRIŞ A., İNAN E.
Teorik ve Uygulamalı Mekanik Türk Milli Komitesi 15. Ulusal Mekanik Kongresi, Isparta, Turkey, 3 - 07 September 2007, pp.551-560
- XVIII. **3-D VIBRATION ANALYSIS OF MICROSTRETCH PLATES**
Inan E., Kırış A.
8th International Conference on Vibration Problems (ICOVP-2007), Shibpur, India, 1 - 03 February 2007, vol.126, pp.189-190
- XIX. **3-D VIBRATION ANALYSIS OF THE RECTANGULAR MICRO DAMAGED PLATES**
Kırış A., Inan E.
8th International Conference on Vibration Problems (ICOVP-2007), Shibpur, India, 1 - 03 February 2007, vol.126, pp.207-208
- XX. **Mikrogermeli Malzemelerde Homojenleştirme Problemi**
KIRIŞ A., İNAN E.
Teorik ve Uygulamalı Mekanik Türk Milli Komitesi 14. Ulusal Mekanik Kongresi, Hatay, Turkey, 12 - 16 September 2005, pp.561-570
- XXI. **Estimation of microstretch elastic moduli by the use of vibrational data**
Kırış A., Inan E.
7th International Conference on Vibration Problems (ICOVP 2005), İstanbul, Turkey, 5 - 09 September 2005, vol.111, pp.285-286
- XXII. **Mikrogermeli malzemelerde hasar tanımı ve Eshelby tansörlerinin elde edilmesi**
KIRIŞ A., İNAN E.

Teorik ve Uygulamalı Mekanik Türk Milli Komitesi 13. Ulusal Mekanik Kongresi, Gaziantep, Turkey, 8 - 12 September 2003, pp.529-538

XXIII. Duffing Salınıcısının Yaklaşık İlk İntegralleri ve Periyodik Çözümlerin Dallanması

ÜNAL G., KIRIŞ A.

Teorik ve Uygulamalı Mekanik Türk Milli Komitesi 11. Ulusal Mekanik Kongresi, Bolu, Turkey, 6 - 10 September 1999, pp.615-624

XXIV. Yüksek Mertebeden Ortalama Alma Yöntemi ve Salınıcı Problemlerine Uygulanması

ÜNAL G., KIRIŞ A.

Teorik ve Uygulamalı Mekanik Türk Milli Komitesi 10. Ulusal Mekanik Kongresi, İstanbul, Turkey, 15 - 19 September 1997, pp.357-361

XXV. Modifiye Helmholtz Salınıcısında Dallanmalar ve Kaos

ÜNAL G., KIRIŞ A.

Doğal ve Uygulamalı Bilimlerde Sayısal Yöntemler Ulusal 1. Kongresi, İstanbul, Turkey, 31 May - 02 June 1996, pp.312-321

Episodes in the Encyclopedia

I. Encyclopedia of Thermal Stresses

İNAN E., KIRIŞ A.

Springer, pp.1326-1336, 2014

Supported Projects

Kırış A., Project Supported by Higher Education Institutions, Identification of the material properties of microisotropic materials, 2013 - 2018

Kırış A., Project Supported by Higher Education Institutions, A Hollow Cylinder in Microstretch Theory, 2011 - 2018

Metrics

Publication: 43

Citation (WoS): 96

Citation (Scopus): 102

H-Index (WoS): 7

H-Index (Scopus): 7