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Personal Information

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Address: Erciyes Üniversitesi Mühendislik Fakültesi Makine Mühendisliği Bölümü

Education Information

Post Doctorate, Politecnico di Torino, Engineering Faculty, Aerospace Engineering Department, Italy 2019 - Continues
Doctorate, Erciyes University, Fen Bilimleri Enstitüsü, Makine Mühendisliği, Turkey 2009 - 2012

Postgraduate, Erciyes University, Fen Bilimleri Enstitüsü, Makine Mühendisliği, Turkey 2006 - 2009

Undergraduate Double Major, Erciyes University, Fen- Edebiyat Fakültesi, Matematik, Turkey 2004 - 2007

Undergraduate, Erciyes University, Mühendislik Fakültesi, Makine Mühendisliği, Turkey 2001 - 2006

Certificates, Courses and Trainings

Education Management and Planning, Yabancı Dil, Deulcom International, 2010

Foreign Language, Yabancı Dil, International, 2009

Foreign Language, Yabancı Dil, Özel Balkaya Yabancı Dil Kursu, 2009

Dissertations

Doctorate, Düzlem İçi Isıl Yüke Maruz İki Yönlü İşlevsel Kademelendirilmiş Dörtgen Ve Dairesel Plakaların Isıl Gerilme Analizi, Erciyes Üniversitesi, Fen Bilimleri Enstitüsü, Makine Mühendisliği, 2012

Postgraduate, Düzlem İçi Isıl Yüke Maruz Tek Yönlü İşlevsel Kademelendirilmiş Plaka ve Disk Bağlantılarının Isıl Gerilme Analizi, Erciyes Üniversitesi, Fen Bilimleri Enstitüsü, Makine Mühendisliği, 2009

Research Areas

Technical Sciences, Mechanical Engineering, Mechanical, Solid Mechanics, Continuous Mechanics, Thermodynamics, Heat and Mass Transfer, Metallurgical and Materials Engineering, Material science and engineering, Composites

Academic Titles / Tasks

Associate Professor, Erciyes University, Mühendislik Fakültesi, Makina Mühendisliği, 2019 - Continues

Other, Politecnico di Torino, Engineering Faculty, Aerospace Engineering Department, 2019 - Continues

Assistant Professor, Erciyes University, Mühendislik Fakültesi, Makine Mühendisliği, 2013 - 2019

Lecturer, Erciyes University, Mühendislik Fakültesi, Makine Mühendisliği, 2010 - 2013

Lecturer, Kahramanmaraş Sutcu Imam University, Kahramanmaraş Vocational School, Makine, 2009 - 2010

Other, Erciyes University, Mühendislik Fakültesi, Makine Mühendisliği, 2007 - 2009

Courses

kinematik, Undergraduate, 2014 - 2015
Mukavemet-I, Undergraduate, 2011 - 2012
Mukavemet-II, Undergraduate, 2011 - 2012
Diferansiyel Denklemler, Undergraduate, 2012 - 2013
Fizik-1, Undergraduate, 2010 - 2011
Yüksek Matematik-I, Undergraduate, 2010 - 2011
Yüksek Matematik-II, Undergraduate, 2010 - 2011
Statik, Undergraduate, 2010 - 2011
Genel Matematik-1, Undergraduate, 2010 - 2011

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Stress Analysis of 2D-FG Rectangular Plates with Multi-Gene Genetic Programming**
Demirbaş M. D. , Çakır D., Öztürk C., Arslan S.
APPLIED SCIENCES, vol.12, no.16, pp.8198-8212, 2022 (Peer-Reviewed Journal)
- II. **Dynamic response of polypropylene honeycomb/polystyrene foam core sandwich composite panels: Experimental and numerical analysis**
ÇALIŞKAN U., DEMİRBAŞ M. D. , Erdogan O.
MECHANICS OF ADVANCED MATERIALS AND STRUCTURES, 2022 (Peer-Reviewed Journal)
- III. **Thermo-elastic response of 2D-FGRPs with temperature-dependent material properties by means of the theory of elasticity**
DEMİRBAŞ M. D.
MECHANICS OF ADVANCED MATERIALS AND STRUCTURES, 2021 (Peer-Reviewed Journal)
- IV. **Evaluation of bending and post-buckling behavior of thin-walled FG beams in geometrical nonlinear regime with CUF**
Carrera E., DEMİRBAŞ M. D.
COMPOSITE STRUCTURES, vol.275, 2021 (Peer-Reviewed Journal)
- V. **Evaluation of Stress Distribution of Isotropic, Composite, and FG Beams with Different Geometries in Nonlinear Regime via Carrera-Unified Formulation and Lagrange Polynomial Expansions**
Carrera E., DEMİRBAŞ M. D. , Augello R.
APPLIED SCIENCES-BASEL, vol.11, no.22, 2021 (Peer-Reviewed Journal)
- VI. **Evaluation of the bending response of compact and thin-walled FG beams with CUF**
DEMİRBAŞ M. D. , ÇALIŞKAN U., Xu X., Filippi M.
MECHANICS OF ADVANCED MATERIALS AND STRUCTURES, vol.28, no.17, pp.1755-1764, 2021 (Peer-Reviewed Journal)
- VII. **Evaluation of stress distributions in the geometrical nonlinear regime of functionally graded structures**
Demirbas M. D. , Xu X., Carrera E., Yang H., Augello R.
COMPOSITE STRUCTURES, vol.246, 2020 (Peer-Reviewed Journal)
- VIII. **Thermoelastic analysis of temperature-dependent functionally graded rectangular plates using finite element and finite difference methods**
Demirbaş M. D. , Ekici R., Apalak M. K.
MECHANICS OF ADVANCED MATERIALS AND STRUCTURES, vol.27, pp.707-724, 2020 (Peer-Reviewed Journal)
- IX. **Thermal stress analysis of one- and two-dimensional functionally graded plates subjected to in-plane heat fluxes**
Demirbaş M. D. , Apalak M. K.
PROCEEDINGS OF THE INSTITUTION OF MECHANICAL ENGINEERS PART L-JOURNAL OF MATERIALS-DESIGN AND APPLICATIONS, vol.233, pp.546-562, 2019 (Peer-Reviewed Journal)
- X. **Investigation of the Thermo-elastic Response of Adhesively Bonded Two-Dimensional Functionally**

Graded Circular Plates Based on Theory of Elasticity

DEMİRBAŞ M. D. , APALAK M. K.

IRANIAN JOURNAL OF SCIENCE AND TECHNOLOGY-TRANSACTIONS OF MECHANICAL ENGINEERING, vol.42, no.4, pp.415-433, 2018 (Peer-Reviewed Journal)

- XI. **Dual-axis buckling of laminated composite skew hyperbolic paraboloids with openings**
Chaubey A. K. , Jha I., Kumar A., DEMİRBAŞ M. D. , Dey S.
JOURNAL OF THE BRAZILIAN SOCIETY OF MECHANICAL SCIENCES AND ENGINEERING, vol.40, no.10, 2018 (Peer-Reviewed Journal)
- XII. **Thermal stress analysis of in-plane two-directional functionally graded plates subjected to in-plane edge heat fluxes**
APALAK M. K. , DEMİRBAŞ M. D.
PROCEEDINGS OF THE INSTITUTION OF MECHANICAL ENGINEERS PART L-JOURNAL OF MATERIALS-DESIGN AND APPLICATIONS, vol.232, no.8, pp.693-716, 2018 (Peer-Reviewed Journal)
- XIII. **Thermal stress analysis of functionally graded plates with temperature-dependent material properties using theory of elasticity**
DEMİRBAŞ M. D.
COMPOSITES PART B-ENGINEERING, vol.131, pp.100-124, 2017 (Peer-Reviewed Journal)
- XIV. **Thermal residual stresses in in-plane functionally graded clamped hollow circular plates subjected to an edge heat flux**
APALAK M. K. , DEMİRBAŞ M. D.
PROCEEDINGS OF THE INSTITUTION OF MECHANICAL ENGINEERS PART L-JOURNAL OF MATERIALS-DESIGN AND APPLICATIONS, vol.229, no.3, pp.236-260, 2015 (Peer-Reviewed Journal)
- XV. **Thermal residual stresses in adhesively bonded in-plane functionally graded clamped circular hollow plates**
APALAK M. K. , DEMİRBAŞ M. D.
JOURNAL OF ADHESION SCIENCE AND TECHNOLOGY, vol.27, no.14, pp.1590-1623, 2013 (Peer-Reviewed Journal)
- XVI. **THERMAL RESIDUAL STRESSES IN ONE-DIRECTIONAL FUNCTIONALLY GRADED PLATES SUBJECTED TO IN-PLANE HEAT FLUX**
Bağcı M. D. , APALAK M. K.
NUMERICAL HEAT TRANSFER PART A-APPLICATIONS, vol.60, no.1, pp.50-83, 2011 (Peer-Reviewed Journal)
- XVII. **Thermal Residual Stresses in Adhesively Bonded In-plane Functionally Graded Clamped Plates Subjected to an Edge Heat Flux**
APALAK M. K. , Bağcı M. D.
JOURNAL OF ADHESION SCIENCE AND TECHNOLOGY, vol.25, no.15, pp.1861-1908, 2011 (Peer-Reviewed Journal)

Articles Published in Other Journals

- I. **Improved Mathematical Models of Thermal Residual Stresses in Functionally Graded Adhesively Bonded Joints: A Critical Review**
APALAK M. K. , DEMİRBAŞ M. D.
Reviews of Adhesion and Adhesives, vol.7, no.4, pp.367-416, 2019 (Peer-Reviewed Journal)
- II. **Modelling of One-directional Functionally Graded Circular Plates with Artificial Neural Network**
DEMİRBAŞ M. D. , Çakır D.
International Scientific and Vocational Studies Journal, vol.3, no.1, pp.42-50, 2019 (Peer-Reviewed Journal)
- III. **Thermal Stress Analysis in Two-Directional Functionally Graded Plates with Artificial Neural Network Training Algorithms**
DEMİRBAŞ M. D. , Çakır D.
Uluslararası Mühendislik Araştırma ve Geliştirme Dergisi, vol.11, pp.442-450, 2019 (Peer-Reviewed Journal)
- IV. **Thermal residual stresses analyses of two-dimensional functionally graded circular plates with temperature-dependent material properties**

DEMİRBAŞ M. D. , APALAK M. K.

Uluslararası Muhendislik Arastirma ve Gelistirme Dergisi, vol.10, pp.202-213, 2018 (Peer-Reviewed Journal)

V. **Thermal Stress Analysis of Functionally Graded Modulus Adhesive Joints**

DEMİRBAŞ M. D. , APALAK M. K.

JOURNAL OF POLYTECHNIC-POLITEKNİK DERGISI, vol.21, no.2, pp.445-456, 2018 (Peer-Reviewed Journal)

VI. **Equivalent stress analysis of functionally graded rectangular plates by genetic programming**

DEMİRBAŞ M. D. , Çakır D., Arslan S., ÖZTÜRK C.

International Scientific and Vocational Studies Journal, vol.2, no.1, pp.67-80, 2018 (Peer-Reviewed Journal)

VII. **Thermal stress control in functionally graded plates with artificial neural network**

DEMİRBAŞ M. D. , Çakır D.

International Scientific and Vocational Studies Journal, vol.2, no.1, pp.39-55, 2018 (Peer-Reviewed Journal)

VIII. **Numerical solution of thermal residual stress analysis with finite difference method of functionally graded circular plates**

DEMİRBAŞ M. D. , APALAK M. K.

Uluslararası Muhendislik Arastirma ve Gelistirme Dergisi, vol.10, pp.172-181, 2018 (Peer-Reviewed Journal)

IX. **Thermal stress analysis with finite difference method of functionally graded circular plates**

DEMİRBAŞ M. D. , APALAK M. K.

International Journal of Mechanical And Production Engineering,, vol.5, pp.73-79, 2017 (Peer-Reviewed Journal)

Books & Book Chapters

I. **GELECEĞİN DÜNYASINDA BİLİMSEL VE MESLEKİ ÇALIŞMALAR MÜHENDİSLİK VE DOĞA BİLİMLERİ**

ERDOĞAN O., DEMİRBAŞ M. D. , ÖZYÖN S., TOPRAK B.

EKİN Basım Yayın Dağıtım, Bursa, 2019

Refereed Congress / Symposium Publications in Proceedings

I. **Large-deflection analysis of composite and FGM thin-walled beams under thermal pre-stresses**

Filippi M., Augello R., Demirbaş M. D. , Carrera E.

MECHCOMP7-7th International Conference on Mechanics of Composites, Porto, Portugal, 1 - 03 September 2021, pp.26-27

II. **INVESTIGATION OF BENDING BEHAVIOR OF CANTILEVER SQUARE BEAMS WITH CUF**

Demirbaş M. D. , Carrera E.

VI. International Scientific and Vocational Studies Congress – Engineering (BILMES EN 2021), Tokat, Turkey, 23 - 26 November 2021, pp.8

III. **Evaluation of stress distributions in the geometrical nonlinear regime of composite and FG structures by means of CUF**

Demirbaş M. D. , Augello R., Xian Yang, X., Carrera E.

MECHCOMP7 - 7th International Conference on Mechanics of Composites, Porto, Portugal, 1 - 03 September 2021, pp.29

IV. **Assessments on Stress Evaluations in Compact, Thin-Walled, FGM and Laminated Beams**

DEMİRBAŞ M. D. , CARRERA E., PETROLO M.

2nd International Conference of Mechanics of Advanced Materials and Structures (ICMAMS 2019), Nanjing, China, 19 - 22 October 2019

V. **Equivalent Stress Model in Functional Graded Circular Plates Created by Artificial Neural Network**

DEMİRBAŞ M. D. , Çakır D.

SCIENTIFIC AND VOCATIONAL STUDIES CONGRESSES (BILMES 2019), Nevşehir, Turkey, 27 - 29 June 2019

VI. **Thermal stress analysis in two-directional functionally graded plates with artificial neural network**

DEMİRBAŞ M. D. , Çakır D.

3rd International Mediterranean Science and Engineering Congress (IMSEC 2018), Adana, Turkey, 24 - 26 October 2018, no.1, pp.30

- VII. **Thermal stress analysis with finite difference method of functionally graded circular plates**
DEMİRBAŞ M. D. , APALAK M. K.
70th International Conference on Mechanical and Aerospace Engineering (ICMAE), Madrid, Spain, 23 - 24 August 2017, pp.18-24
- VIII. **Thermal-stress analyses of in-plane functionally graded hollow circular plates with finite element and finite difference methods**
DEMİRBAŞ M. D. , EKİCİ R., APALAK M. K.
II. International Scientific and Vocational Studies Congress (BILMES 2018), Nevşehir, Turkey, 5 - 08 July 2018, pp.557-558
- IX. **Heat transfer analyses of in-plane functionally graded hollow circular plates with two numerical methods**
DEMİRBAŞ M. D. , EKİCİ R., APALAK M. K.
II. International Scientific and Vocational Studies Congress (BILMES 2018), Nevşehir, Turkey, 5 - 08 July 2018, pp.555-556
- X. **Equivalent stress analysis of functionally graded plates by genetic programming**
DEMİRBAŞ M. D. , ÖZTÜRK C., Arslan S., Çakır D.
II. International Scientific and Vocational Studies Congress (BILMES 2018), Nevşehir, Turkey, 5 - 08 July 2018, pp.553-554
- XI. **Effects of temperature-dependent material properties on thermo-mechanical analysis of in-plane two-dimensional functionally graded circular plates**
DEMİRBAŞ M. D. , APALAK M. K.
First International Conference on Mechanics of Advanced Materials and Structures (ICMAMS), Torino, Italy, 17 - 20 June 2018, pp.1
- XII. **Heat transfer analysis of two-dimensional functionally graded rectangular plates with two numerical methods**
DEMİRBAŞ M. D. , EKİCİ R., APALAK M. K.
4th International Conference on Engineering and Natural Sciences (ICENS), KİEV, Ukraine, 2 - 06 May 2018, pp.84
- XIII. **Thermal residual stress analysis of two-dimensional functionally graded plates with finite element and finite difference methods**
DEMİRBAŞ M. D. , EKİCİ R., APALAK M. K.
4th International Conference on Engineering and Natural Sciences (ICENS), KİEV, Ukraine, 2 - 06 May 2018, pp.85
- XIV. **Production parameters and characterization of hybrid composites**
DEMİRBAŞ M. D. , Erdoğan Ö.
II. International Vocational Science Symposium, Antalya, Turkey, 26 - 29 April 2018, pp.280
- XV. **Advantages and disadvantages of hybrid composites according to traditional composites**
DEMİRBAŞ M. D. , Erdoğan Ö.
II. International Vocational Science Symposium, Antalya, Turkey, 26 - 29 April 2018, pp.279
- XVI. **Thermal residual stresses analyses of one-dimensional functionally graded circular plates**
DEMİRBAŞ M. D. , APALAK M. K.
I. International Scientific and Vocational Studies Congress, Nevşehir, Turkey, 5 - 08 October 2017, pp.386
- XVII. **Heat transfer analyses of one-dimensional functionally graded plates**
DEMİRBAŞ M. D. , APALAK M. K.
I. International Scientific and Vocational Studies Congress, 5 - 08 October 2017, pp.387
- XVIII. **Heat transfer analysis of functionally graded materials with two numerical methods**
Demirbaş M. D. , Ekici R., Apalak M. K.
9th International Conference on Tribology (Balkan Trib'17), Nevşehir, Turkey, 13 - 15 September 2017, pp.595-600
- XIX. **Comparison of thermal-stress analysis of functionally graded rectangular plates with finite element and finite difference methods**

Demirbař M. D. , Ekici R., Apalak M. K.

9th International Conference on Tribology (Balkan Trib'17), Nevřehir, Turkey, 13 - 15 September 2017, pp.601-609

XX. Heat transfer analysis of the circular plates with finite difference method

DEMİRBAŞ M. D. , APALAK M. K.

1th International Conference on Applied Analysis and Mathematical Modeling (ICAAMM2017), İstanbul, Turkey, 3 - 07 June 2017, pp.1

XXI. The Thermal Stress Analysis of One- and Two-Dimensional Functionally Graded Circular Plates for In-Plane Sinusoidal Heat Flux

DEMİRBAŞ M. D. , APALAK M. K.

INTERNATIONAL CONFERENCE ON ENGINEERING AND NATURAL SCIENCE, Saray Bosna, Bosnia And Herzegovina, 24 - 28 May 2016, pp.1-5

XXII. IN-PLANE THERMAL RESIDUAL STRESSES IN FUNCTIONALLY GRADED PLATES

APALAK M. K. , DEMİRBAŞ M. D.

12th ASME Biennial Conference on Engineering Systems Design and Analysis (ESDA2014), Copenhagen, Denmark, 25 - 27 June 2014

XXIII. IN-PLANE THERMAL RESIDUAL STRESSES IN ADHESIVELY BONDED FUNCTIONALLY GRADED PLATES

APALAK M. K. , DEMİRBAŞ M. D.

The sixteenth European Conference for Composite Materials (ECCM16), Seville, Spain, 22 - 26 June 2014, pp.1-10

Supported Projects

DEMİRBAŞ M. D. , ÇAKIR D., Project Supported by Higher Education Institutions, FONKSİYONEL KADEMELENDİRİLMİŐ PLAKALARDA MALZEME KOMPOZİSYONUNUN YAPAY SİNİR AĐI VE GENETİK PROGRAMLAMA İLE BELİRLENMESİ (DETERMINATION OF MATERIAL COMPOSITION IN FUNCTIONALLY GRADED PLATES BY ARTIFICIAL NEURAL NETWORK AND GENETIC PROGRAMMING), 2017 - 2019

APALAK M. K. , DEMİRBAŞ M. D. , Project Supported by Higher Education Institutions, DÜZLEM İÇİ ISIL YÜKE MARUZ İKİ YÖNLÜ İŐLEVSEL KADEMELENDİRİLMİŐ DÖRTGEN VE DAİRESEL PLAKALARIN ISIL GERİLME ANALİZİ, 2012 - 2014
CANIYILMAZ E., DEMİRBAŞ M. D. , EU Supported Other Project, GENÇ İŐSİZLER İÇİN MOBİLYA TASARIM METODLARI - Young&Designer, 2009 - 2011

APALAK M. K. , BAĐCI M. D. , Project Supported by Higher Education Institutions, DÜZLEM İÇİ ISIL YÜKE MARUZ TEK YÖNLÜ İŐLEVSEL KADEMELENDİRİLMİŐ PLAKALARDA ISIL ARTIK GERİLMELERİN ANALİZİ, 2009 - 2010
CANIYILMAZ E., DEMİRBAŞ M. D. , EU Supported Other Project, UNİVERSİTE MEZUNLARININ KOBİ'LERE YÖNLENDİRİLMESİ - ORIEN&SME, 2008 - 2010

Metrics

Publication: 51

Citation (WoS): 88

Citation (Scopus): 49

H-Index (WoS): 6

H-Index (Scopus): 4

Awards

DEMİRBAŞ M. D. , Bilimsel Yayın Onur Ödülü, Erciyes Üniversitesi, October 2012

DEMİRBAŞ M. D. , Uluslararası Yayın Teřvik Ödülü, TÜBİTAK, June 2011

DEMİRBAŞ M. D. , Bölüm İkinciliĐi, Erciyes Üniversitesi, June 2006

Non Academic Experience

Business Establishment Private