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Personal Information

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International Researcher IDs

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Education Information

Undergraduate, Middle East Technical University, Faculty Of Engineering, Department Of Engineering Sciences, Turkey
1981 - 1986

Dissertations

Doctorate, Infinite cylinder with a transverse crack and two rigid inclusions under axial tension, Middle East Technical University, Graduate School Of Natural And Applied Sciences, Mühendislik Bilimleri (Dr), 1998

Research Areas

Natural Sciences, Engineering and Technology

Academic Titles / Tasks

Professor, Dokuz Eylul University, Mühendislik Fakültesi, Makina Mühendisliği Bölümü, 2017 - Continues

Associate Professor, Dokuz Eylul University, Mühendislik Fakültesi, Makina Mühendisliği Bölümü, 2009 - 2017

Assistant Professor, Dokuz Eylul University, Mühendislik Fakültesi, Makina Mühendisliği Bölümü, 1999 - 2009

Academic and Administrative Experience

Head of Department, Dokuz Eylul University, Mühendislik Fakültesi, Makina Mühendisliği Bölümü, 2023 - Continues

Fakülte Kurulu Üyesi, Dokuz Eylul University, Mühendislik Fakültesi, Makina Mühendisliği Bölümü, 2009 - 2015

Erasmus Coordinator of Mechanical Engineering Department, Dokuz Eylul University, Mühendislik Fakültesi, Makina Mühendisliği Bölümü, 2007 - 2014

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **The fracture behavior of sandwich composites with different core densities and thickness subjected to mode I loading at different temperatures**
Maleki F. K., Toygar E. M.
MATERIALS RESEARCH EXPRESS, vol.6, no.4, 2019 (SCI-Expanded)
- II. **Experimental, analytical and numerical study of mechanical properties and fracture energy for composite sandwich beams**
Toygar E. M., Tee K. F., Maleki F. K., Balaban A. C.
JOURNAL OF SANDWICH STRUCTURES & MATERIALS, vol.21, no.3, pp.1167-1189, 2019 (SCI-Expanded)
- III. **The design and development of solar flat mirror (Solarux) system**
TOYGAR E. M., Bayram T., DAŞ O., Demir A.
RENEWABLE & SUSTAINABLE ENERGY REVIEWS, vol.54, pp.1278-1284, 2016 (SCI-Expanded)
- IV. **The temperature and pre-crack length effects on delamination resistance of woven GFRP sandwich composites**
TOYGAR E. M., Maleki F. K.
MECHANIKA, no.5, pp.331-336, 2016 (SCI-Expanded)
- V. **Effect of the root crack on the lateral buckling loads and natural frequencies of sandwich composite beams**
KIRAL Z., TOYGAR E. M., GÖREN KIRAL B., Sayman O.
COMPOSITES PART B-ENGINEERING, vol.53, pp.308-313, 2013 (SCI-Expanded)
- VI. **Effect of interface crack on lateral buckling behavior and free vibration response of a sandwich composite beam**
TOYGAR E. M., KIRAL Z., Sayman O., ARMAN Y., Ozen M.
JOURNAL OF COMPOSITE MATERIALS, vol.47, no.15, pp.1843-1851, 2013 (SCI-Expanded)
- VII. **Fracture energy determination and critical crack propagation between core and veneer ceramic interface by experiment and finite element method**
TOYGAR E. M., Toparli M., Sen F., GÜNGÖR M. A.
MATERIALS & DESIGN, vol.30, no.6, pp.2278-2282, 2009 (SCI-Expanded)
- VIII. **Fracture and fatigue analysis of an agitator shaft with a circumferential notch**
Karaagac C., TOYGAR E. M.
ENGINEERING FRACTURE MECHANICS, vol.73, no.14, pp.2034-2052, 2006 (SCI-Expanded)
- IX. **Cracked infinite cylinder with two rigid inclusions under axisymmetric tension**
TOYGAR E. M., Gecit M. R.
INTERNATIONAL JOURNAL OF SOLIDS AND STRUCTURES, vol.43, no.16, pp.4777-4794, 2006 (SCI-Expanded)
- X. **Failure analysis of woven kevlar fiber reinforced epoxy composites pinned joints**
Icten B., KARAKUZU R., TOYGAR E. M.
COMPOSITE STRUCTURES, vol.73, no.4, pp.443-450, 2006 (SCI-Expanded)
- XI. **An investigation of fracture toughness of carbon/epoxy composites**
TOYGAR E. M., Toparli M., UYULGAN B.
JOURNAL OF REINFORCED PLASTICS AND COMPOSITES, vol.25, no.18, pp.1887-1895, 2006 (SCI-Expanded)
- XII. **An investigation of square delamination effects on the buckling behavior of laminated composite plates with a square hole by using three-dimensional FEM analysis**
Zor M., Sen F., TOYGAR E. M.
JOURNAL OF REINFORCED PLASTICS AND COMPOSITES, vol.24, no.11, pp.1119-1130, 2005 (SCI-Expanded)
- XIII. **Thermal residual stresses in aluminum metal-matrix antisymmetric laminated plates under uniform temperature distribution**
Sayman C., Yeni E., TOYGAR E. M., Senel M.
JOURNAL OF REINFORCED PLASTICS AND COMPOSITES, vol.22, no.10, pp.913-926, 2003 (SCI-Expanded)

Articles Published in Other Journals

- I. **Dokuma Cam Elyaf Takviyeli Polimer Kompozitlerin Tabaka Diziliminin ve Genişliklerinin SERR Üzerindeki Etkileri**
Toygar E. M., Maleki F. K.
Deu Muhendislik Fakultesi Fen ve Muhendislik, vol.21, no.62, pp.369-378, 2019 (Peer-Reviewed Journal)
- II. **New Design of Solarux CSP Greenhouse, ProducesAnd Dries Agricultural Products In Addition ToElectricity Generation**
Toygar E. M., İncesu Ö., Toygar A., Bayram T.
INTERNATIONAL JOURNAL of ENGINEERING SCIENCE AND APPLICATION, vol.2, no.1, 2018 (Peer-Reviewed Journal)
- III. **SOLARUX CSP greenhouse, cultivates agricultural products,generates electrical energy, industrial fruit and vegetables dryingwith wasted heat energy**
TOYGAR E. M., İNCESU Ö., ÇETİN Z., BAYRAM T., TOYGAR A.
IEEE, 2017 (Peer-Reviewed Journal)
- IV. **Vibration and buckling analysis of a curved sandwich composite beam with FEM**
TOYGAR E. M., SAYMAN O., KEMİKLİOĞLU U., ÖZTÜRK H., KIRAL Z., MALEKI F. K.
Research on Engineering Structures Materials, vol.2, 2016 (Peer-Reviewed Journal)
- V. **EFFECT OF THE ROOT CRACK ON NATURAL FREQUENCIES OF SANDWICH COMPOSITE BEAMS**
Sayman O., TOYGAR E. M., GÖREN KIRAL B., GÖREN KIRAL B.
PAMUKKALE UNIVERSITY JOURNAL OF ENGINEERING SCIENCES-PAMUKKALE UNIVERSİTESİ MUHENDİSLİK BİLİMLERİ DERGİSİ, vol.19, no.7, pp.298-302, 2013 (ESCI)
- VI. **İnsan Bacak Hareketleri İçin Prototip Dış iskelet Robotik Sisteminin Mekanik Tasarımı ve Hareket Verilerinin Yapay Sinir Ağları ile Elde Edilmesi**
ÖZKURT A., TOYGAR E. M., ŞENOL Y., OLCAY T., KIRAL Z., ARMAN Y., AKKAN T., GÖREN KIRAL B.
Sakarya Üniversitesi Fen Bilimleri Enstitüsü Dergisi, vol.16, no.3, pp.234-248, 2012 (Peer-Reviewed Journal)
- VII. **COMPUTATION OF STRESS INTENSITY FACTORS OF AN AXISYMMETRIC INFINITE CYLINDER HAVING A TRANSVERSE CRACK**
TOYGAR E. M.
Pamukkale University Journal of Engineering Sciences, vol.8, no.1, pp.1-8, 2011 (Peer-Reviewed Journal)
- VIII. **DEVELOPMENT OF THE NEW TEST CHAMBER FOR THE CALIBRATION OF THE HYGROMETERS**
Toygar E. M., Kumlutaş D., Ayvaz S.
DEÜ MÜHENDİSLİK FAKÜLTESİ FEN ve MÜHENDİSLİK DERGİSİ, vol.6, no.2, pp.17-24, 2004 (Peer-Reviewed Journal)
- IX. **Computation of stress intensity factors of an axisymmetric infinite cylinder having a transverse crack**
Toygar E. M.
PAMUKKALE UNIVERSITY JOURNAL OF ENGINEERING SCIENCES-PAMUKKALE UNIVERSİTESİ MUHENDİSLİK BİLİMLERİ DERGİSİ, vol.8, no.1, pp.1-8, 2002 (Peer-Reviewed Journal)
- X. **Metroloji ve Kaibrasyon II**
TOYGAR E. M.
Mühendis ve Makina, 2001 (Peer-Reviewed Journal)
- XI. **Metroloji ve Kalibrasyon I**
TOYGAR E. M.
Mühendis ve Makina, no.2, 2001 (Peer-Reviewed Journal)

Books & Book Chapters

- I. **Failure Modes in Fiber Reinforced Composites and Fracture Toughness Testing of FRP**
TOYGAR E. M.
in: Advances in Fatigue and Fracture Testing and Modelling, Toygar Evren Meltem, Editor, IntechOpen, London, pp.17-34, 2022
- II. **BÖLÜM 10 ÇATLAK İÇEREN LAMİNANT VE SANDVIÇ KOMPOZİT YAPILARDA ENERJİ YAKLAŞIMLARI**

TOYGAR E. M.

in: Denizsel Kompozitler, Kadri Turgut Gürsel, Editor, İskad yayınevi, İzmir, pp.185-204, 2022

III. **Mathematical modelling and inverse dynamic analysis of human motion**

Toygar E. M., Dağhan N. M., Çakmakçı M.

in: Mobile Robotics. Solutions and Challenges, Editörler Grubu, Editor, World Scientific Publishing Co. Pte. Ltd., NJ, İstanbul, pp.853-860, 2009

Refereed Congress / Symposium Publications in Proceedings

- I. **PHYSICAL PROPERTIES AND PRODUCTION OF SANDWICH COMPOSITE STRUCTURES WITH DIFFERENT CORE MATERIALS**
Ozdemir I., TOYGAR E. M.
DEUISGR'23, İzmir, Turkey, 21 December 2023
- II. **Güneş Kule Sisteminde Üretilen Isı Enerjisinin Yüksek Sıcaklık Depolama Sisteminde Modellenmesi**
TOYGAR E. M.
The 14th International Scientific Research Congress- Science and Engineering -UBAK, Ankara, Turkey, 20 August 2022, pp.312-322
- III. **Investigation into Mechanical Properties and Failure Modes of Novel Sandwich Composite Material with Carbon Fibre/Epoxy Facesheets and PVC Foam Core**
BALABAN C., TOYGAR E. M.
ECF23, European Conference on Fracture 2022, Maderia, Portugal, 29 June 2022, pp.121
- IV. **Usage of Nanomaterials on Carbon Fibre/Epoxy Composites for Improvement on Their Material Properties**
Balaban C., Toygar E. M.
ECF23, European Conference on Fracture 2022, Funchal, Portugal, 29 June 2022, pp.122
- V. **Design, Manufacturing and Testing of Pipe Fittings**
Toygar E. M., Kırdıs S., Yegin M., Pehlivan E., Dogan U., Deniz O., Coban M.
Proceedings of the 7th World Congress on Mechanical, Chemical, and Material Engineering (MCM'21), Praha, Czech Republic, 02 August 2021
- VI. **Binek Araç Jantlarının Ömür Testi Süresinin Optimizasyonu**
KARAKAŞ E., TOYGAR E. M.
MAS International European Conference On Mathematics- Engineering, 14 - 15 December 2019
- VII. **Determination of Mechanical Properties of GFRP - Balsa Sandwich Composite Material**
BALABAN C., MALEKI F. K., TEE K. F., TOYGAR E. M.
ESIAM 19, Trondheim, Norway, 9 - 11 September 2019
- VIII. **Low Velocity Impact Behaviour of Sandwich Composite Structures with E-Glass/Epoxy Facesheets and PVC Foam**
Balaban A. C., Tee K. F., Toygar M. E.
25th International Conference on Fracture and Structural Integrity, Catania, Italy, 12 - 14 June 2019, vol.18, pp.577-585
- IX. **A Parametric Study on Strain Energy Release Rate of Sandwich Composites for Mode II Crack Propagation Path**
BALABAN C., TEE K. F., TOYGAR E. M.
6 th International Conference on Crack Paths (CP2018), Verona, Italy, 15 - 18 September 2018
- X. **Mathematical Modelling on Bending Behavior of Sandwich Composite Beams**
TOYGAR E. M., Puhurcuoğlu N.
7th International Conference on Advanced Technologies (ICAT), Antalya, Turkey, 28 April 2018
- XI. **LOWER CONSTRUCTION OF SOLARUX CSP GREENHOUSE, PROVIDES EXTRA INCOMES IN ADDITION TO ELECTRICITY GENERATION WITH NEW DESIGNED CSP DISH MIRRORS**
Toygar M. E., Bayram T., Incesu O., Cetin Z., Toygar A.

12th IEEE International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG), Doha, Qatar, 10 - 12 April 2018

- XII. **INVESTIGATION OF SANDWICH COMPOSITE MATERIAL PRODUCTION METHODS**
Çetinkal S. B., Toygar E. M.
International Conference on Engineering Technologies (ICENTE'17), Konya, Turkey, 7 - 12 December 2017, pp.152-153
- XIII. **EVALUATION OF FLEXURAL RIGIDITY AND SHEAR STIFFNESS OF CURVED SANDWICH COMPOSITE BEAMS**
Tee K. F., Toygar E. M., Balaban C., Maleki F. K.
3rd International Conference on Mechanics of Composites, Bologna, Italy, 4 - 07 July 2017, pp.87-88
- XIV. **SOLARUX CSP Greenhouse, Cultivates Agricultural Products, Generates Electrical Energy, Industrial Fruit and Vegetables Drying with Wasted Heat Energy**
Toygar M. E., Bayram T., Incesu O., Cetin Z., Toygar A.
6th IEEE INTERNATIONAL CONFERENCE on RENEWABLE ENERGY RESEARCH and APPLICATIONS (ICRERA 2017), California, United States Of America, 5 - 08 November 2017, pp.189-194
- XV. **The Experimental and Numerical Investigation of Fracture Behavior of Woven Fabric Reinforced Glass Epoxy Laminates Including Different Crack Geometries**
Toygar E. M., Gezici F.
3rd International Conference on Thermophysical and Mechanical Properties of Advanced Materials, İzmir, Turkey, 1 - 03 September 2016
- XVI. **Measurement of Human Walking on Sagittal Plane for Exoskeleton Walking Pattern Generation**
OLCAY T., ÖZKURT A., TOYGAR E. M., AKKAN T., ŞENOL Y.
9th International Conference on Electrical and Electronics Engineering (ELECO), Bursa, Turkey, 26 - 28 November 2015, pp.171-173
- XVII. **The Determination of Shear Stress Between Interlaminar Face and Flexural Rigidity of Sandwich Composites**
KHOSRAVI MALEKI F., TOYGAR E. M.
ICCE-22, Saint Julian's, Malta, 13 July 2014
- XVIII. **Design and Development of Solar Flat Mirror and Heat Storage System**
TOYGAR E. M., Bayram T., DAŞ O., Yazar A., Tastan M., Calmaz H., Kaya O. F.
3rd International Conference on Renewable Energy Research and Application (ICRERA), Wisconsin, United States Of America, 19 - 22 October 2014, pp.821-827
- XIX. **The Development and Design of Solarux System with Solar Flat Mirror and Solid Material High-Temperature Heat Storage**
TOYGAR E. M., Demir A., Bayram T., DAŞ O., Turkmen E. T.
International Conference on Renewable Energy Research and Applications (ICRERA), Madrid, Spain, 20 - 23 October 2013, pp.458-463
- XX. **Mathematical Modelling and Inverse Dynamic Analysis of Human Motion**
TOYGAR E. M., Çakmakçı M., DAĞHAN N. M.
Mobile Robotics-Solutions and Challenges-The Twelfth International Conference on Climbing and Walking Robots and the Support Technologies for Mobile Machines, İstanbul, Turkey, 09 September 2010, pp.853-860
- XXI. **MATHEMATICAL MODELLING AND INVERSE DYNAMIC ANALYSIS OF HUMAN MOTION**
Daghan N. M., Toygar E. M., Cakmakcib M.
12th International Conference on Climbing and Walking Robots the Support Technologies for Mobile Machines (CLAWAR), İstanbul, Turkey, 9 - 11 September 2009, pp.853-860
- XXII. **Infinite cylinder with a transverse crack and two rigid inclusions under axial tension**
TOYGAR E. M., Gecit M.
7th International Conference on Civil and Structural Engineering/5th International Conference on the Applications of Artificial Intelligence to Civil and Structural Engineering, Oxford, United Kingdom, 13 - 15 September 1999, pp.179-188

Supported Projects

TOYGAR E. M., Project Supported by Higher Education Institutions, Eğri Sandviç Kompozitlerin İmalatı, Mekanik Özellikleri ve Hasar Modlarının İncelenmesi, 2018 - 2021

TOYGAR E. M., Project Supported by Higher Education Institutions, İnsan Yürüyüşünün Modellenmesi Ve İvers Dinamik Analizi, 2008 - 2010

Activities in Scientific Journals

American Journal of Mechanical and Materials Engineering, Committee Member, 2022 - Continues

Green Electricity, Committee Member, 2022 - Continues

Scientific Refereeing

Industrial Thesis Project, ATHA Makine, Turkey, July 2022

Industrial Thesis Project, Aymas Makina Sanayi ve Limited Şirketi, Turkey, July 2022

Industrial Thesis Project, LCM Makine Sanayi ve Ltd.Şti., Turkey, March 2021

TUBITAK Project, 1007 - Public Institutions Research and Development Projects DP, Tubitak UME, Turkey, January 2015

TUBITAK Project, 1007 - Public Institutions Research and Development Projects DP, Tubitak UME, Turkey, November 2014

TUBITAK Project, 1007 - Public Institutions Research and Development Projects DP, Tubitak UME, Turkey, June 2012

TUBITAK Project, 1007 - Public Institutions Research and Development Projects DP, Tubitak UME, Turkey, June 2012

Development Agency, Dokuz Eylul University, Turkey, May 2008

Development Agency, Dokuz Eylul University, Turkey, May 2008

Metrics

Publication: 53

Citation (WoS): 178

Citation (Scopus): 215

H-Index (WoS): 8

H-Index (Scopus): 8

Awards

Toygar E. M., Bibliography Award "Who's Who in Science and Engineering" 2006-2007, Who'S Who In Science And Engineering, December 2006