

Prof. BORA YILDIRIM

Personal Information

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Education Information

Doctorate, Lehigh University, Mühendislik Fakültesi, Makina , United States Of America 1996 - 2000

Postgraduate, Lehigh University, Mühendislik Fakültesi, Makina , United States Of America 1994 - 1996

Undergraduate, Boğaziçi Üniversitesi, Mühendislik Fakültesi, Makina , Turkey 1988 - 1993

Foreign Languages

English, C1 Advanced

Research Areas

Mechanical Engineering, Engineering and Technology

Academic Titles / Tasks

Professor, Hacettepe Üniversitesi, Mühendislik Fakültesi, Makine Mühendisliği Bölümü, 2012 - Continues

Associate Professor, Hacettepe Üniversitesi, Mühendislik Fakültesi, Makine Mühendisliği Bölümü, 2006 - 2012

Assistant Professor, Hacettepe Üniversitesi, Mühendislik Fakültesi, Makine Mühendisliği Bölümü, 2005 - 2006

Assistant Professor, Eskişehir Osmangazi Üniversitesi, Mühendislik-Mimarlık Fakültesi, Makine Mühendisliği Bölümü, 2000 - 2005

Academic and Administrative Experience

Hacettepe Üniversitesi, Mühendislik Fakültesi, Makine Mühendisliği Bölümü, 2012 - Continues

Hacettepe Üniversitesi, Mühendislik Fakültesi, Makine Mühendisliği Bölümü, 2006 - 2009

Advising Theses

YILDIRIM B., TRISO kaplanmış parçacıkların termal ve mekanik analizi için sonlu elemanlar metodu ile kod geliştirilmesi, Postgraduate, A.YILDIZ(Student), 2011

YILDIRIM B., Three dimensional mixed mode fracture analysis of functionally graded materials, Postgraduate, S.KÖŞKER(Student), 2007

YILDIRIM B., Homojen olmayan malzemelerde çatlak problemlerinin dinamik olarak sonlu elemanlar metodu ile incelenmesi, Postgraduate, S.İŞIKOVA(Student), 2005

YILDIRIM B., GE marka tek kapılı buzdolaplarının arka polimer plakasındaki termal yorulma çatlamlarının üç boyutlu

sonlu elemanlar analizi, Postgraduate, Ş.MURAT(Student), 2005

YILDIRIM B., Çatlak ucu mod I gerilim şiddet çarpanlarının sonlu elemanlar yöntemi ile hesaplanması, Postgraduate, T.BAŞARAN(Student), 2004

YILDIRIM B., Fonksiyonel derecelendirilmiş malzemelerden yapılmış termal bariyer kaplamalarındaki kenar çatlaklarının süreksiz rejimde sonlu elemanlar metodu ile incelenmesi, Postgraduate, E.GÜLİN(Student), 2004

YILDIRIM B., FC-1Z keski gövdesinin dolgu kaynağında kullanılan elektrod tipinin değişiminin kaynağın yorulma ömrüne olan etkisinin sonlu elemanlar yöntemiyle analizi, Postgraduate, Ö.ELİTOK(Student), 2004

Articles Published in Journals That Entered SCI, SSCI and AHCI Indexes

- I. **A brief review on the mechanical behavior of nonwoven fabrics**
YILMAZ K. B. , SABUNCUOĞLU B., YILDIRIM B., Silberschmidt V. V.
JOURNAL OF ENGINEERED FIBERS AND FABRICS, vol.15, 2020 (Journal Indexed in SCI)
- II. **Frictional receding contact problem of a functionally graded layer resting on a homogeneous coated half-plane**
ÇÖMEZ İ., El-Borgi S., YILDIRIM B.
ARCHIVE OF APPLIED MECHANICS, vol.90, no.9, pp.2113-2131, 2020 (Journal Indexed in SCI)
- III. **Numerical and empirical modeling of peak deceleration and stress analysis of polyurethane elastomer under impact loading test**
Shamsadinlo B., Sheikhi M. R. , ÜNVER Ö., YILDIRIM B.
POLYMER TESTING, vol.89, 2020 (Journal Indexed in SCI)
- IV. **Investigation of cold extrusion process by coupled thermo-mechanical finite element analysis**
GÖRTAN M. O. , TÜRKBAŞ O. S. , YILMAZ K. B. , YILDIRIM B.
JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, vol.35, no.1, pp.323-335, 2020 (Journal Indexed in SCI)
- V. **Double frictional receding contact problem for an orthotropic layer loaded by normal and tangential forces**
YILDIRIM B., Yilmaz K. B. , Comez I., Guler M. A.
MECCANICA, vol.54, no.14, pp.2183-2206, 2019 (Journal Indexed in SCI)
- VI. **Sliding frictional contact analysis of a monoclinic coating/isotropic substrate system**
YILMAZ K. B. , ÇÖMEZ İ., Guler M. A. , YILDIRIM B.
MECHANICS OF MATERIALS, vol.137, 2019 (Journal Indexed in SCI)
- VII. **On the plane frictional contact problem of a homogeneous orthotropic layer loaded by a rigid cylindrical stamp**
ÇÖMEZ İ., YILMAZ K. B. , Guler M. A. , YILDIRIM B.
ARCHIVE OF APPLIED MECHANICS, vol.89, no.7, pp.1403-1419, 2019 (Journal Indexed in SCI)
- VIII. **The effect of orthotropic material gradation on the plane sliding frictional contact mechanics problem**
YILMAZ K. B. , Comez L., Guler M. A. , YILDIRIM B.
JOURNAL OF STRAIN ANALYSIS FOR ENGINEERING DESIGN, vol.54, no.4, pp.254-275, 2019 (Journal Indexed in SCI)
- IX. **Fabrication, Morphology Analysis, and Mechanical Properties of Ti Foams Manufactured Using the Space Holder Method for Bone Substitute Materials**
Cetinel O., ESEN Z., YILDIRIM B.
METALS, vol.9, no.3, 2019 (Journal Indexed in SCI)
- X. **Analytical and finite element solution of the sliding frictional contact problem for a homogeneous orthotropic coating-isotropic substrate system**
YILMAZ K. B. , ÇÖMEZ İ., Guler M. A. , YILDIRIM B.
ZAMM-ZEITSCHRIFT FÜR ANGEWANDTE MATHEMATIK UND MECHANIK, vol.99, no.3, 2019 (Journal Indexed in SCI)

- XI. **Design of a vibration-free platform: Stabilization of a beam mounted on bicycle model of a car**
DOĞRUER C. U. , YILDIRIM B.
PROCEEDINGS OF THE INSTITUTION OF MECHANICAL ENGINEERS PART C-JOURNAL OF MECHANICAL ENGINEERING SCIENCE, vol.232, no.22, pp.4113-4127, 2018 (Journal Indexed in SCI)
- XII. **Frictional receding contact problem for a graded bilayer system indented by a rigid punch**
YILMAZ K. B. , ÇÖMEZ İ., YILDIRIM B., Guler M. A. , EL-BORGİ S.
INTERNATIONAL JOURNAL OF MECHANICAL SCIENCES, vol.141, pp.127-142, 2018 (Journal Indexed in SCI)
- XIII. **On the analytical and finite element solution of plane contact problem of a rigid cylindrical punch sliding over a functionally graded orthotropic medium**
Guler M. A. , KÜÇÜKSUCU A., YILMAZ K. B. , YILDIRIM B.
INTERNATIONAL JOURNAL OF MECHANICAL SCIENCES, vol.120, pp.12-29, 2017 (Journal Indexed in SCI)
- XIV. **Subsurface stresses in graded coatings subjected to frictional contact with heat generation**
BALCI M. N. , DAĞ S., YILDIRIM B.
JOURNAL OF THERMAL STRESSES, vol.40, no.4, pp.517-534, 2017 (Journal Indexed in SCI)
- XV. **Analysis of frictional contacts with heat generation considering temperature dependent properties**
BALCI M. N. , YILDIRIM B., DAĞ S.
INTERNATIONAL JOURNAL OF MECHANICAL SCIENCES, vol.101, pp.59-69, 2015 (Journal Indexed in SCI)
- XVI. **Computational Methods for Inclined Cracks in Orthotropic Functionally Graded Materials Under Thermal Stresses**
SERKAN D., YILDIRIM B., TOPAL S.
Journal Of Thermal Stresses, vol.36, pp.1001-1026, 2013 (Journal Indexed in SCI)
- XVII. **Frictional Hertzian contact between a laterally graded elastic medium and a rigid circular stamp**
DAĞ S., Guler M. A. , YILDIRIM B., Ozatag A. C.
ACTA MECHANICA, vol.224, no.8, pp.1773-1789, 2013 (Journal Indexed in SCI)
- XVIII. **Three dimensional computational analysis of fatigue crack propagation in functionally graded materials**
Sabuncuoglu B., DAĞ S., YILDIRIM B.
COMPUTATIONAL MATERIALS SCIENCE, vol.52, no.1, pp.246-252, 2012 (Journal Indexed in SCI)
- XIX. **HYGROTHERMAL FRACTURE ANALYSIS OF ORTHOTROPIC MATERIALS USING $J(k)$ -INTEGRAL**
DAĞ S., YILDIRIM B., Arslan O., Arman E. E.
JOURNAL OF THERMAL STRESSES, vol.35, no.7, pp.596-613, 2012 (Journal Indexed in SCI)
- XX. **Periodic crack problem for a functionally graded half-plane an analytic solution**
YILDIRIM B., KUTLU O., Kadioglu S.
INTERNATIONAL JOURNAL OF SOLIDS AND STRUCTURES, vol.48, no.21, pp.3020-3031, 2011 (Journal Indexed in SCI)
- XXI. **Computation of thermal fracture parameters for orthotropic functionally graded materials using $J(k)$ -integral**
DAĞ S., Arman E. E. , YILDIRIM B.
INTERNATIONAL JOURNAL OF SOLIDS AND STRUCTURES, vol.47, pp.3480-3488, 2010 (Journal Indexed in SCI)
- XXII. **Sliding frictional contact between a rigid punch and a laterally graded elastic medium**
DAG S., GULER M. A. , YILDIRIM B., OZATAG A C.
International Journal Of Solids And Structures, vol.46, pp.4038-4053, 2009 (Journal Indexed in SCI)
- XXIII. **Buckling of an orthotropic graded coating with an embedded crack bonded to a homogeneous substrate**
Aloulou W., YILDIRIM B., El-Borgi S., Zghal A.
INTERNATIONAL JOURNAL OF SOLIDS AND STRUCTURES, vol.46, no.9, pp.1890-1900, 2009 (Journal Indexed in SCI)
- XXIV. **Computation of Thermal Fracture Parameters for Inclined Cracks in Functionally Graded Materials Using J_k -Integral**
DAĞ S., YILDIRIM B.
JOURNAL OF THERMAL STRESSES, vol.32, no.5, pp.530-556, 2009 (Journal Indexed in SCI)

- XXV. **Delamination of compressively stressed orthotropic functionally graded material coatings under thermal loading**
YILDIRIM B., Yilmaz S., Kadioglu S.
JOURNAL OF APPLIED MECHANICS-TRANSACTIONS OF THE ASME, vol.75, no.5, 2008 (Journal Indexed in SCI)
- XXVI. **Performance analysis of TRISO coated fuel particles with kernel migration**
Gulol O. O. , Colak U., YILDIRIM B.
JOURNAL OF NUCLEAR MATERIALS, vol.374, pp.168-177, 2008 (Journal Indexed in SCI)
- XXVII. **Mixed-mode fracture analysis of orthotropic functionally graded materials under mechanical and thermal loads**
Dag S., Yildirim B., Sarikaya D.
INTERNATIONAL JOURNAL OF SOLIDS AND STRUCTURES, vol.44, no.24, pp.7816-7840, 2007 (Journal Indexed in SCI)
- XXVIII. **An equivalent domain integral method for fracture analysis of functionally graded materials under thermal stresses**
Yildirim B.
JOURNAL OF THERMAL STRESSES, vol.29, no.4, pp.371-397, 2006 (Journal Indexed in SCI)
- XXIX. **Three dimensional fracture analysis of FGM coatings under thermomechanical loading**
Yildirim B., DAG S., ERDOGAN E.
INTERNATIONAL JOURNAL OF FRACTURE, vol.132, no.4, pp.369-395, 2005 (Journal Indexed in SCI)
- XXX. **Interface crack problems in graded orthotropic media: Analytical and computational approaches**
DAG S., Yildirim B., ERDOGAN F.
INTERNATIONAL JOURNAL OF FRACTURE, vol.130, no.1, pp.471-496, 2004 (Journal Indexed in SCI)
- XXXI. **Edge crack problems in homogenous and functionally graded material thermal barrier coatings under uniform thermal loading**
Yildirim B., ERDOGAN F.
JOURNAL OF THERMAL STRESSES, vol.27, no.4, pp.311-329, 2004 (Journal Indexed in SCI)

Articles Published in Other Journals

- I. **Frictionless contact problem between a rigid moving punch and a homogeneous layer resting on a Winkler foundation**
ÇÖMEZ İ., YILMAZ K. B. , GÜLER M. A. , YILDIRIM B.
Journal of Structural Engineering Applied Mechanics, vol.2, pp.75-87, 2019 (Refereed Journals of Other Institutions)
- II. **Jant İçi Elektrik Motorunun Kritik Parçalarının Yorulma Analizi**
Çakıcı U. G. , BAŞLAMIŞLI S. Ç. , SOLMAZ S., YILMAZ K. B. , YILDIRIM B.
Mühendis ve Makina, vol.60, pp.132-146, 2019 (Other Refereed National Journals)
- III. **Sonlu elemanlar yöntemi ile yorulma çatlağı ilerlemesi simülasyonu**
SABUNCUOĞLU B., DAĞ S., YILDIRIM B.
Makina Tasarım ve İmalat, vol.7, pp.87-95, 2005 (Other Refereed National Journals)

Refereed Congress / Symposium Publications in Proceedings

- I. **Adaptive Control of Nonlinear Spur Gear Dynamics with Parametric Disturbance Rejection**
DOĞRUER C. U. , YILMAZ K. B. , YILDIRIM B.
2019 23rd International Conference on System Theory, Control and Computing (ICSTCC), Sinaia, Romania, 9 - 11 October 2019, pp.373-378
- II. **DAİRESEL ZIMBA İLE İZOTROP YARIM DÜZLEME BASTIRILAN ORTOTROP TABAKANIN SÜRTÜNMELİ TEMAS PROBLEMİ**

YILMAZ K. B. , ÇÖMEZ İ., GÜLER M. A. , YILDIRIM B.

21. Ulusal Mekanik Kongresi, Niğde, Turkey, 2 - 06 September 2019, pp.687-696

- III. **FRICIONAL CONTACT PROBLEM BETWEEN A FUNCTIONALLY GRADED ORTHOTROPIC LAYER AND A RIGID FLAT PUNCH**
YILMAZ K. B. , ÇÖMEZ İ., GÜLER M. A. , YILDIRIM B.
International Civil Engineering Architecture Conference, Trabzon, Turkey, 17 - 20 April 2019
- IV. **FRICIONAL SLIDING CONTACT PROBLEM OF AN ORTHOTROPIC LAYER PRESSED BY A RIGID PARABOLIC PUNCH**
YILMAZ K. B. , ÇÖMEZ İ., GÜLER M. A. , YILDIRIM B.
International Civil Engineering Architecture Conference, Trabzon, Turkey, 17 - 20 April 2019
- V. **Numerical Investigation of Dynamics of Crach Box Collision Geometry**
KUTLUAY E., YILDIRIM B., ÇETİNEL O.
OTEKON 2018, Bursa, Turkey, 7 - 08 May 2018, pp.37-44
- VI. **Derivation of crush force versus deformation behaviour of vehicles at different impact speeds**
HİMMETOĞLU S., YILMAZ K. B. , YILDIRIM B., TEKİN a.
22nd International Scientific on Conference Transport Means 2018, Trakai, Lithuania, 3 - 05 October 2018, pp.49-56
- VII. **Mixed-mode stress intensity factors in a homogeneous orthotropic medium loaded by a frictional sliding rigid flat stamp**
YILMAZ K. B. , Güler M., YILDIRIM B.
17th International Conference on Fracture and Damage Mechanics, FDM 2018, Bangkok, Thailand, 4 - 06 September 2018, pp.179-184
- VIII. **Mesh Insensitive Structural Stress Method for Fatigue Analysis of Welded Joints Using the Finite Element Method**
MÜLKOĞLU O., SEYEDİ A. R. , GÜLER M. A. , YILDIRIM B.
8th International Advanced Technologies Symposium 2017, IATS '17, Elazig,TURKEY, Elazığ, Turkey, 19 - 22 September 2017, pp.3729-3734
- IX. **Three Dimensional Modeling of Inclined Surface Cracks in FGM Coatings**
Kosker S., DAĞ S., YILDIRIM B.
10th International Symposium on Multiscale, Multifunctional and Functionally Graded Materials, Sendai, Japan, 22 - 25 September 2008, pp.109-110
- X. **Fatigue crack growth analysis models for functionally graded materials**
DAĞ S., Sabuncuoglu B., YILDIRIM B.
9th International Conference on Multiscale and Functionally Graded Materials, Hawaii, United States Of America, 15 - 18 October 2006, vol.973, pp.423-424

Supported Projects

SÜMER B., KÖKSAL M., YILDIRIM B., GÖRTAN M. O. , Project Supported by Higher Education Institutions, Makina Mühendisliği Bölümü Lisans Programı Deney Ölçüm ve Test Altyapısının Geliştirilmesi, 2017 - 2018

KOÇKAR B., GÖRTAN M. O. , BAŞLAMIŞLI S. Ç. , KÖKSAL M., EKİCİ Ö., ÜNVER Ö., YILDIRIM B., Project Supported by Higher Education Institutions, Formula Student Yarışmasına Katılmak Üzere Yarış Aracı Tasarımı ve Üretimi, 2015 - 2017

YILDIRIM B., ÖNOĞLU E. F. , Project Supported by Higher Education Institutions, Projektillerle Çarpışma Durumunda Fonksiyonel Derecelendirilmiş Malzemelerden yapılmış Plakaların Dinamik Davranışının İncelenmesi, 2015 - 2017

Citations

Total Citations (WOS):414

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