

## Prof. Dr. AHMET NEDİM ERASLAN

### Kişisel Bilgiler

E-posta: aeraslan@metu.edu.tr

Web: <https://avesis.metu.edu.tr/aeraslan>

### Uluslararası Araştırmacı ID'leri

ScholarID: W2sv2c8AAAAJ

ORCID: 0000-0002-1158-0042

Publons / Web Of Science ResearcherID: AAZ-9946-2020

ScopusID: 7003983781

Yoksis Araştırmacı ID: 163750

### Eğitim Bilgileri

Doktora, Iowa State University, Chemical Engineering, Amerika Birleşik Devletleri 1984 - 1987

Yüksek Lisans, Orta Doğu Teknik Üniversitesi, Mühendislik Fakültesi, Kimya Mühendisliği Bölümü, Türkiye 1980 - 1984

Lisans, Gazi Üniversitesi, Mühendislik Fakültesi, Kimya Mühendisliği Bölümü, Türkiye 1974 - 1979

### Yabancı Diller

İngilizce, B2 Orta Üstü

### Yaptığı Tezler

Doktora, Ionic Structure of Hydrocarbon Flames, Iowa State University, Chemical Engineering, 1987

Yüksek Lisans, Fluid Flow and Heat Transfer in Circular and Annular Ducts, Orta Doğu Teknik Üniversitesi, Mühendislik Fakültesi, Kimya Mühendisliği Bölümü, 1984

### Araştırma Alanları

Mühendislik ve Teknoloji

### Akademik Unvanlar / Görevler

Prof. Dr., Orta Doğu Teknik Üniversitesi, Mühendislik Fakültesi, Mühendislik Bilimleri Bölümü, 2009 - 2016

### Yönetilen Tezler

ERASLAN A. N., Development of computational fluid dynamics (CFD) based topology optimization codes in openfoam, Yüksek Lisans, N.ŞENOL(Öğrenci), 2019

ERASLAN A. N., Negative bending of strain hardening curved beam in theelastoplastic states of stress, Yüksek Lisans, G.ÇAKIR(Öğrenci), 2018

ERASLAN A. N., Elastic analysis of orthotropic cylinders under different boundary conditions, Yüksek Lisans, Ö.CAN(Öğrenci), 2016

ERASLAN A. N., Analysis of stress in the elastic state in a solid cylinder subjected to periodic boundary condition, Yüksek Lisans, B.YEDEKÇİ(Öğrenci), 2015

ERASLAN A. N., Analysis of stress in a solid cylinder with periodic heat generation, Yüksek Lisans, E.VARLI(Öğrenci), 2015

ERASLAN A. N., Elastic-plastic solutions of a long tube subjected to a temperature cycle, Doktora, Y.KAYA(Öğrenci), 2014

ERASLAN A. N., Sıcaklık çevriminin dönen elastik-plastik mil üzerindeki etkisi, Doktora, E.Arslan(Öğrenci), 2010

ERASLAN A. N., Analytical and numerical solutions to rotating orthotropic disk problems, Yüksek Lisans, Y.KAYA(Öğrenci), 2007

ERASLAN A. N., TOKDEMİR T., Generalized finite differences for the solution of one dimensional elastic plastic problems of nonhomogeneous materials, Yüksek Lisans, P.UYGUR(Öğrenci), 2007

ERASLAN A. N., Thermoelastoplastic response of composite tubes subjected to nonuniform heat source, external pressure and convective boundary condition, Yüksek Lisans, M.EMİN(Öğrenci), 2004

## SCI, SSCI ve AHCI İndekslerine Giren Dergilerde Yayınlanan Makaleler

- I. **A CONCISE ANALYTICAL TREATMENT OF ELASTIC RESPONSE OF A COOLING TWO-LAYER SOLID CYLINDER WITH DIFFERENT END AND BOUNDARY CONDITIONS**  
AKIŞ T., ERASLAN A. N.  
ISI BILIMI VE TEKNIGI DERGISI-JOURNAL OF THERMAL SCIENCE AND TECHNOLOGY, cilt.40, sa.2, ss.293-308, 2020 (SCI-Expanded)
- II. **Analyses of elastic limit heat loads in thick walled tubes subjected to periodic surface temperatures: analytical treatment**  
APATAY T., ERASLAN A. N.  
ARCHIVES OF MECHANICS, cilt.70, sa.1, ss.37-53, 2018 (SCI-Expanded)
- III. **Thermal loading and unloading of a solid cylinder subjected to periodic internal energy cycling**  
ERASLAN A. N., APATAY T.  
ZAMM-ZEITSCHRIFT FUR ANGEWANDTE MATHEMATIK UND MECHANIK, cilt.97, sa.3, ss.340-357, 2017 (SCI-Expanded)
- IV. **Analytical solution to thermal loading and unloading of a cylinder subjected to periodic surface heating**  
ERASLAN A. N., APATAY T.  
JOURNAL OF THERMAL STRESSES, cilt.39, sa.8, ss.928-941, 2016 (SCI-Expanded)
- V. **Bending of graded curved bars at elastic limits and beyond**  
ARSLAN E., ERASLAN A. N.  
INTERNATIONAL JOURNAL OF SOLIDS AND STRUCTURES, cilt.50, sa.5, ss.806-814, 2013 (SCI-Expanded)
- VI. **Amendments on "Application of Mises yield criterion to rotating solid disk problem" by N. Aleksandrova [Int. J. Eng. Sci. 51 (2012) 333-337]**  
ERASLAN A. N., AKIŞ T.  
INTERNATIONAL JOURNAL OF ENGINEERING SCIENCE, cilt.56, ss.127-128, 2012 (SCI-Expanded)
- VII. **The rotating elastic-plastic hollow shaft conveying a hot medium**  
Arslan E., Mack W., ERASLAN A. N.  
FORSCHUNG IM INGENIEURWESEN-ENGINEERING RESEARCH, cilt.74, sa.1, ss.27-39, 2010 (SCI-Expanded)
- VIII. **Analytical solution to the bending of a nonlinearly hardening wide curved bar**  
Arslan E., ERASLAN A. N.  
ACTA MECHANICA, cilt.210, ss.71-84, 2010 (SCI-Expanded)
- IX. **ELASTIC-PLASTIC STRESS ANALYSIS OF NONHOMOGENEOUS ROTATING SOLID DISCS**  
ERASLAN A. N., APATAY T., Gulgec M.  
JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, cilt.23, sa.3, ss.627-635,

2008 (SCI-Expanded)

- X. **Discussion of the article "Approximate solution of limit angular speed for externally loaded rotating solid disk" by S. Bhowmick, D. Misra and NK Saha [Int J Mech Sci 2008;50:163-74]**  
ERASLAN A. N., AKIŞ T.  
INTERNATIONAL JOURNAL OF MECHANICAL SCIENCES, cilt.50, sa.9, ss.1432-1433, 2008 (SCI-Expanded)
- XI. **A concise analytical treatment of elastic-plastic bending of a strain hardening curved beam**  
ERASLAN A. N., Arslan E.  
ZAMM-ZEITSCHRIFT FÜR ANGEWANDTE MATHEMATIK UND MECHANIK, cilt.88, sa.8, ss.600-616, 2008 (SCI-Expanded)
- XII. **Thermoelastic response of a fin exhibiting elliptic thickness profile: An analytical solution**  
ERASLAN A. N., TOKDEMİR T.  
INTERNATIONAL JOURNAL OF THERMAL SCIENCES, cilt.47, sa.3, ss.274-281, 2008 (SCI-Expanded)
- XIII. **On the use of temperature-dependent physical properties in thermomechanical calculations for solid and hollow cylinders**  
Argeso H., ERASLAN A. N.  
INTERNATIONAL JOURNAL OF THERMAL SCIENCES, cilt.47, sa.2, ss.136-146, 2008 (SCI-Expanded)
- XIV. **Effect of a temperature cycle on a rotating elastic-plastic shaft**  
ARSLAN E., Mack W., ERASLAN A. N.  
ACTA MECHANICA, cilt.195, ss.129-140, 2008 (SCI-Expanded)
- XV. **The strain hardening rotating hollow shaft subject to a positive temperature gradient**  
Eraslan A. N., Arslan E., Mack W.  
ACTA MECHANICA, cilt.194, ss.191-211, 2007 (SCI-Expanded)
- XVI. **Exact solution of rotating FGM shaft problem in the elastoplastic state of stress**  
Akis T., Eraslan A. N.  
ARCHIVE OF APPLIED MECHANICS, cilt.77, sa.10, ss.745-765, 2007 (SCI-Expanded)
- XVII. **Stresses in FGM pressure tubes under non-uniform temperature distribution**  
Eraslan A. N.  
STRUCTURAL ENGINEERING AND MECHANICS, cilt.26, sa.4, ss.393-408, 2007 (SCI-Expanded)
- XVIII. **Heat and mass transfer mechanisms in drying of a suspension droplet: A new computational model**  
Dalmaz N., Ozbelge H. O., Eraslan A. N., Uludag Y.  
DRYING TECHNOLOGY, cilt.25, ss.391-400, 2007 (SCI-Expanded)
- XIX. **The stress response and onset of yield of rotating FGM hollow shafts**  
Akis T., Eraslan A. N.  
ACTA MECHANICA, cilt.187, ss.169-187, 2006 (SCI-Expanded)
- XX. **Plane strain analytical solutions for a functionally graded elastic-plastic pressurized tube**  
Eraslan A. N., Akis T.  
INTERNATIONAL JOURNAL OF PRESSURE VESSELS AND PIPING, cilt.83, sa.9, ss.635-644, 2006 (SCI-Expanded)
- XXI. **The stress response of partially plastic rotating FGM hollow shafts: Analytical treatment for axially constrained ends**  
Eraslan A. N., Akis T.  
MECHANICS BASED DESIGN OF STRUCTURES AND MACHINES, cilt.34, sa.3, ss.241-260, 2006 (SCI-Expanded)
- XXII. **On the plane strain and plane stress solutions of functionally graded rotating solid shaft and solid disk problems**  
Eraslan A., Akis T.  
ACTA MECHANICA, cilt.181, ss.43-63, 2006 (SCI-Expanded)
- XXIII. **Yielding of two-layer shrink-fitted composite tubes subject to radial pressure**  
Eraslan A., Akis T.  
FORSCHUNG IM INGENIEURWESEN-ENGINEERING RESEARCH, cilt.69, sa.4, ss.187-196, 2005 (SCI-Expanded)
- XXIV. **Stress distributions in cooling fins of variable thickness with and without rotation**  
Eraslan A., Kartal M.  
JOURNAL OF THERMAL STRESSES, cilt.28, sa.8, ss.861-883, 2005 (SCI-Expanded)

- XXV. **Elastoplastic analysis of nonlinearly hardening variable thickness annular disks under external pressure**  
Eraslan A., Orcan Y., Guven U.  
MECHANICS RESEARCH COMMUNICATIONS, cilt.32, sa.3, ss.306-315, 2005 (SCI-Expanded)
- XXVI. **Stress distributions in elastic-plastic rotating disks with elliptical thickness profiles using Tresca and von Mises criteria**  
Eraslan A.  
ZAMM-ZEITSCHRIFT FUR ANGEWANDTE MATHEMATIK UND MECHANIK, cilt.85, sa.4, ss.252-266, 2005 (SCI-Expanded)
- XXVII. **A computational procedure for estimating residual stresses and secondary plastic flow limits in nonlinearly strain hardening rotating shafts**  
Eraslan A., Mack W.  
FORSCHUNG IM INGENIEURWESEN-ENGINEERING RESEARCH, cilt.69, sa.2, ss.65-75, 2005 (SCI-Expanded)
- XXVIII. **Tresca's yield criterion and linearly hardening rotating solid disks having hyperbolic profiles**  
Eraslan A.  
FORSCHUNG IM INGENIEURWESEN-ENGINEERING RESEARCH, cilt.69, sa.1, ss.17-28, 2004 (SCI-Expanded)
- XXIX. **Thermoplastic response of a linearly hardening cylinder subjected to nonuniform heat source and convective boundary condition**  
Eraslan A., Orcan Y.  
MECHANICS BASED DESIGN OF STRUCTURES AND MACHINES, cilt.32, sa.2, ss.133-164, 2004 (SCI-Expanded)
- XXX. **Von Mises' yield criterion and nonlinearly hardening rotating shafts**  
Eraslan A.  
ACTA MECHANICA, cilt.168, ss.129-144, 2004 (SCI-Expanded)
- XXXI. **On annular disks of variable thickness subjected to external pressure**  
Eraslan A., Apatay T.  
FORSCHUNG IM INGENIEURWESEN-ENGINEERING RESEARCH, cilt.68, sa.3, ss.133-138, 2004 (SCI-Expanded)
- XXXII. **Elastoplastic deformations of rotating parabolic solid disks using Tresca's yield criterion**  
Eraslan A.  
EUROPEAN JOURNAL OF MECHANICS A-SOLIDS, cilt.22, sa.6, ss.861-874, 2003 (SCI-Expanded)
- XXXIII. **On the elastic-plastic deformation of a rotating disk subjected to a radial temperature gradient**  
Eraslan A., Akis T.  
MECHANICS BASED DESIGN OF STRUCTURES AND MACHINES, cilt.31, sa.4, ss.529-561, 2003 (SCI-Expanded)
- XXXIV. **Assessment of flow and heat transfer characteristics for proposed solid density distributions in dilute laminar slurry upflows through a concentric annulus**  
Eraslan A., Ozbelge T.  
CHEMICAL ENGINEERING SCIENCE, cilt.58, sa.17, ss.4055-4069, 2003 (SCI-Expanded)
- XXXV. **Stress distributions in energy generating two-layer tubes subjected to free and radially constrained boundary conditions**  
Eraslan A., Sener E., Argeso H.  
INTERNATIONAL JOURNAL OF MECHANICAL SCIENCES, cilt.45, sa.3, ss.469-496, 2003 (SCI-Expanded)
- XXXVI. **On the linearly hardening rotating solid shaft**  
Eraslan A.  
EUROPEAN JOURNAL OF MECHANICS A-SOLIDS, cilt.22, sa.2, ss.295-307, 2003 (SCI-Expanded)
- XXXVII. **Thermally induced deformations of composite tubes subjected to a nonuniform heat source**  
Eraslan A.  
JOURNAL OF THERMAL STRESSES, cilt.26, sa.2, ss.167-193, 2003 (SCI-Expanded)
- XXXVIII. **Von mises yield criterion and nonlinearly hardening variable thickness rotating annular disks with rigid inclusion**  
Eraslan A.  
MECHANICS RESEARCH COMMUNICATIONS, cilt.29, sa.5, ss.339-350, 2002 (SCI-Expanded)
- XXXIX. **On the rotating elastic-plastic solid disks of variable thickness having concave profiles**

- Eraslan A., Orcan Y.  
INTERNATIONAL JOURNAL OF MECHANICAL SCIENCES, cilt.44, sa.7, ss.1445-1466, 2002 (SCI-Expanded)
- XL. **Elastic-plastic stresses in linearly hardening rotating solid disks of variable thickness**  
Orcan Y., Eraslan A.  
MECHANICS RESEARCH COMMUNICATIONS, cilt.29, sa.4, ss.269-281, 2002 (SCI-Expanded)
- XLI. **Elastic-plastic deformation of a rotating solid disk of exponentially varying thickness**  
Eraslan A., Orcan Y.  
MECHANICS OF MATERIALS, cilt.34, sa.7, ss.423-432, 2002 (SCI-Expanded)
- XLII. **Computation of transient thermal stresses in elastic-plastic tubes: Effect of coupling and temperature-dependent physical properties**  
Eraslan A., Orcan Y.  
JOURNAL OF THERMAL STRESSES, cilt.25, sa.6, ss.559-572, 2002 (SCI-Expanded)
- XLIII. **Limit angular velocities of variable thickness rotating disks**  
Eraslan A., Argeso H.  
INTERNATIONAL JOURNAL OF SOLIDS AND STRUCTURES, cilt.39, sa.12, ss.3109-3130, 2002 (SCI-Expanded)
- XLIV. **Thermal stresses in elastic-plastic tubes with temperature-dependent mechanical and thermal properties**  
Orcan Y., Eraslan A.  
JOURNAL OF THERMAL STRESSES, cilt.24, sa.11, ss.1097-1113, 2001 (SCI-Expanded)
- XLV. **COMPUTER ECONOMY AND ACCURACY OF THE METHOD OF LINES APPLIED TO LAMINAR FLAME PROBLEMS**  
ERASLAN A., BROWN R.  
COMMUNICATIONS IN APPLIED NUMERICAL METHODS, cilt.5, sa.3, ss.181-190, 1989 (SCI-Expanded)

## **Diğer Dergilerde Yayınlanan Makaleler**

- I. **Analytical solutions to orthotropic variable thickness disk problems**  
ERASLAN A. N., Kaya Y., VARLI E.  
PAMUKKALE UNIVERSITY JOURNAL OF ENGINEERING SCIENCES-PAMUKKALE UNIVERSITESI MUHENDISLIK BILIMLERI DERGISI, cilt.22, sa.1, ss.24-30, 2016 (ESCI)
- II. **DEFORMATION ANALYSIS OF TWO LAYER COMPOSITE TUBES UNDER CYCLIC LOADING OF EXTERNAL PRESSURE**  
ERASLAN A. N., AKIŞ T.  
Journal of Basic and Applied Research International, 2016 (Hakemli Dergi)
- III. **Fracture and Fatigue Crack Growth Characterization of Conventional and Head Hardened Railway Rail Steels**  
Motameni A., ERASLAN A. N.  
Journal of Scientific and Engineering Research, 2016 (Hakemli Dergi)
- IV. **Analytical and Numerical Solutions to a Rotating FGM Disk**  
ERASLAN A. N., ARSLAN E.  
Journal of Multidisciplinary Engineering Science and Technology, cilt.2, sa.10, ss.2843-2850, 2015 (Hakemli Dergi)
- V. **Analytical Solutions To Elastic Functionally Graded Cylindrical And Spherical Pressure Vessels**  
ERASLAN A. N., AKIŞ T.  
Journal of Multidisciplinary Engineering Science and Technology, cilt.2, sa.10, ss.2686-2693, 2015 (Hakemli Dergi)
- VI. **Analytical and Numerical Solutions to Rotating Variable Thickness Disks for a New Thickness Profile**  
ERASLAN A. N., Buşra Ç.  
Journal of Multidisciplinary Engineering Science and Technology, cilt.2, sa.9, ss.2359-2364, 2015 (Hakemli Dergi)
- VII. **Thermoelastic Stresses in a Rod Subjected to Periodic Boundary Condition An Analytical Treatment**  
ERASLAN A. N., APATAY T.  
Journal of Multidisciplinary Engineering Science and Technology, cilt.2, sa.9, ss.2438-2444, 2015 (Hakemli Dergi)

- VIII. **Stress analysis in strain hardening two layer composite tubes subjected to cyclic loading of internal pressure**  
ERASLAN A. N., AKIŞ T.  
International Journal of Advances in Applied Mathematics and Mechanics, cilt.3, sa.2, ss.65-76, 2015 (Hakemli Dergi)
- IX. **Elastic Response of a Heat Generating Rod at a Variable Generation Rate**  
ERASLAN A. N., VARLI E.  
International Journal of Advances in Engineering Science and Technology, cilt.4, sa.2, ss.73-83, 2015 (Hakemli Dergi)
- X. **A COMPUTATIONAL MODEL FOR PARTIALLY PLASTIC STRESS ANALYSIS OF ORTHOTROPIC VARIABLE THICKNESS DISKS SUBJECTED TO EXTERNAL PRESSURE**  
ERASLAN A. N., KAYA KARALAR Y., YEDEKÇİ B.  
Mathematical Sciences and Applications E-Notes, cilt.2, sa.1, ss.1-13, 2014 (Hakemli Dergi)
- XI. **Analytical Solution of Nonlinear Strain Hardening Preheated Pressure Tube**  
ERASLAN A. N., APATAY T.  
Turkish Journal of Engineering and Environmental Sciences, 2008 (Hakemli Dergi)
- XII. **Computer Solutions of Plane Strain Axisymmetric Thermomechanical Problems**  
ERASLAN A. N., ARGEŞO A. H.  
Turkish Journal of Engineering and Environmental Sciences, 2005 (Hakemli Dergi)
- XIII. **A Class of Nonisothermal Variable Thickness Rotating Disk Problems Solved by Hypergeometric Functions**  
ERASLAN A. N.  
Turkish Journal of Engineering and Environmental Sciences, 2005 (Hakemli Dergi)
- XIV. **Yielding and Elastoplastic Deformation of Annular Disks of a Parabolic Section Subject to External Compression**  
AKGÜL F., ERASLAN A. N.  
Turkish Journal of Engineering and Environmental Sciences, cilt.29, sa.1, ss.51-60, 2005 (Scopus)
- XV. **Deformation Analysis of Elastic-Plastic Two Layer Tubes Subject to Pressure: an Analytical Approach**  
ERASLAN A. N., AKIŞ T.  
Turkish Journal of Engineering and Environmental Sciences, 2004 (Hakemli Dergi)

### **Hakemli Kongre / Sempozyum Bildiri Kitaplarında Yer Alan Yayınlar**

- I. **Effects of wall thickness and material properties on the elastic limit behavior of a tube subject to periodic boundary conditions**  
APATAY T., ERASLAN A. N.  
International Congress on Industrial and Applied Mathematics, Valensiya, İspanya, 15 - 19 Temmuz 2019
- II. **İç Yüzey Sıcaklığı Periyodik Olarak Değişen Kalın Cidarlı Tüplerde Termoelastik Gerilme Davranışı: Analitik Çözüm**  
ERASLAN A. N., APATAY T.  
20. Ulusal Mekanik Kongresi, Bursa, Türkiye, 5 - 09 Eylül 2017
- III. **Dış Yüzey Sıcaklığı Zamanla Değişen Silindirin Elastik-Plastik Analitik Çözümü**  
ERASLAN A. N., APATAY T., VARLI E.  
19. Ulusal Mekanik Kongresi, Türkiye, 24 - 28 Ağustos 2015
- IV. **SİNÜZOİDAL DEĞİŞEN İÇ ISI ÜRETİMİ ETKİSİNDEKİ SİLİNDİRİN KISMEN PLASTİK ANALİTİK ÇÖZÜMÜ**  
APATAY T., ERASLAN A. N., YEDEKÇİ B.  
Ulusal Mekanik Kongresi XIX, Trabzon, Türkiye, 24 - 28 Ağustos 2015, cilt.1, ss.97-104
- V. **Analytical and Numerical Solutions to Rotating Variable Thickness Disks for a New Thickness Profile**  
ERASLAN A. N., Ciftci B.  
International Conference on Numerical Analysis and Applied Mathematics (ICNAAM), Rhodes, Yunanistan, 22 - 28

Eylül 2014, cilt.1648

**VI. Elastic Response of Heat Generating Rod at a Variable Generating Rate**

ERASLAN A. N., VARLI E.

International Conference on Numerical Analysis and Applied Mathematics (ICNAAM), Rhodes, Yunanistan, 22 - 28

Eylül 2014, cilt.1648

**Metrikler**

Yayın: 66

Atf (WoS): 754

Atf (Scopus): 752

H-İndeks (WoS): 15

H-İndeks (Scopus): 15