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International Researcher IDs

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Education Information

Doctorate, University of Kentucky, College Of Engineering, Mechanical Engineering, United States Of America 2010 - 2014

Postgraduate, Brown University, Division Of Engineering, Materials Science, United States Of America 2008 - 2010

Undergraduate, Gazi University, Muhendislik Fakultesi, Makine Muhendisligi, Turkey 2002 - 2006

Certificates, Courses and Trainings

Foreign Language, ELS Language Center, Fairleigh Dickinson University, Teaneck, NJ, USA, 2007

Dissertations

Doctorate, "Precipitation, orientation and composition effects on the shape memory properties of high strength NiTiHfPd shape memory alloys", University Of Kentucky, College Of Engineering, Mechanical Engineering, 2014

Research Areas

Mechanical Testing, Metallic Materials, Structure-Property Relationship

Academic Titles / Tasks

Assistant Professor, Erciyes University, Havacılık Ve Uzay Bilimleri Fakültesi, Uçak Mühendisliği, 2018 - Continues

Assistant Professor, Erciyes University, Havacılık Ve Uzay Bilimleri Fakültesi, Uçak Mühendisliği, 2015 - 2018

Lecturer PhD, Erciyes University, Havacılık Ve Uzay Bilimleri Fakültesi, Uçak Mühendisliği, 2014 - 2015

Research Assistant, University of Kentucky, College Of Engineering, Mechanical Engineering, 2010 - 2014

Research Assistant, Brown University, Division Of Engineering, Materials Science, 2008 - 2010

Advising Theses

ACAR E., Balpeteği kompozit yapılarda termografi metoduyla su tespiti, Postgraduate, K.Münir(Student), 2018

ACAR E., NiTiHf bazlı şekil hafızalı alaşımların fonksiyonel özelliklerinin termodinamik açıdan incelenmesi, Postgraduate, M.Çalışkan(Student), 2018

ACAR E., VTOL İHA'nın kanat bağlantı açılarının incelenmesi, Postgraduate, E.Yazar(Student), 2018

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Shape Memory Effect in Quaternary NiTiHfPd Shape Memory Alloys beyond 200 degrees C**
Saedi S., Toker G. P. , Raji H., ACAR E., Watanabe F., Karaca H.
JOURNAL OF MATERIALS ENGINEERING AND PERFORMANCE, 2022 (Peer-Reviewed Journal)
- II. **Thermo-mechanical Characterization of an Aged Ni_{45.3}Ti_{39.7}Hf₁₀Pd₅ Shape Memory Alloy**
Acar E., Toker G., Saedi S., Tobe H., Karaca H.
JOM, vol.73, no.2, pp.640-645, 2021 (Peer-Reviewed Journal)
- III. **Post-aging cooling rate effects in Ni_{45.3}Ti_{34.7}Hf₁₅Pd₅ shape memory alloys**
Acar E., Saedi S., Toker G., Tobe H., Karaca H.
Materials Research Bulletin, vol.133, 2021 (Peer-Reviewed Journal)
- IV. **Post-aging cooling rate effects in Ni_{45.3}Ti_{34.7}Hf₁₅Pd₅ shape memory alloys**
Acar E., Saedi S., Toker P. G. , Tobe H., Karaca H. E.
MATERIALS RESEARCH BULLETIN, pp.1-5, 2021 (Peer-Reviewed Journal)
- V. **Thermo-mechanical Characterization of an Aged Ni_{45.3}Ti_{39.7}Hf₁₀Pd₅ Shape Memory Alloy**
Acar E., Toker P. G. , Saedi S., Tobe H., Karaca H.
Jom, pp.1-6, 2020 (Peer-Reviewed Journal)
- VI. **Loading frequency and temperature-dependent damping capacity of NiTiHfPd shape memory alloy**
Toker P. G. , Saedi S., Acar E., Ozbulut O., Karaca H. E.
Mechanics Of Materials, pp.1-8, 2020 (Peer-Reviewed Journal)
- VII. **Processing and compressive response of Al/SiC functionally graded composites**
AYDIN M., Toker G. P. , ACAR E., Karaca H. E.
EUROPEAN PHYSICAL JOURNAL PLUS, vol.135, no.6, 2020 (Peer-Reviewed Journal)
- VIII. **High temperature surface oxidation response of Ni₅₀Ti₄₉Ta₁ and Ni₅₀Ti₄₇Ta₃ shape memory alloys**
Acar E., Kök M., Gündüz M.
APPLIED PHYSICS A-MATERIALS SCIENCE & PROCESSING, pp.161-162, 2020 (Peer-Reviewed Journal)
- IX. **Exploring surface oxidation behavior of NiTi-V alloys**
Acar E., Kök M., Quader İ.
European Physical Journal Plus, pp.1-9, 2020 (Peer-Reviewed Journal)
- X. **Effects of deformation temperature and amount on the two-way shape memory effect of solutionized Ni_{50.8}Ti_{49.2} alloys**
Kaya I., Acar E., Karaca H. E.
INTERMETALLICS, vol.114, 2019 (Peer-Reviewed Journal)
- XI. **High temperature shape memory behavior of Ni_{47.3}Ti_{29.7}Hf₂₀Pd₃ alloys**
ACAR E., Toker G. P. , Kurkcu H., Karaca H. E.
INTERMETALLICS, vol.111, 2019 (Peer-Reviewed Journal)
- XII. **Phase transformation and mechanical properties of HfPd ultra-high temperature shape memory alloys**
Kaya I., ACAR E., Karaca H. E.
APPLIED PHYSICS A-MATERIALS SCIENCE & PROCESSING, vol.125, no.6, 2019 (Peer-Reviewed Journal)
- XIII. **Differential scanning calorimetry response of aged NiTiHfPd shape memory alloys**
ACAR E., Caliskan M., Karaca H. E.
APPLIED PHYSICS A-MATERIALS SCIENCE & PROCESSING, vol.125, no.4, 2019 (Peer-Reviewed Journal)
- XIV. **Thermal cycling response of Ni_{45.3}Ti_{29.7}Hf₂₀Pd₅ shape memory alloys**
ACAR E., Karaca H., Tobe H.

- SMART MATERIALS AND STRUCTURES, vol.27, no.10, 2018 (Peer-Reviewed Journal)
- XV. **On the stress-assisted aging in NiTiHfPd single crystal shape memory alloys**
ACAR E., Tobe H., Karaca H., Chumlyakov Y.
MATERIALS SCIENCE AND ENGINEERING A-STRUCTURAL MATERIALS PROPERTIES MICROSTRUCTURE AND PROCESSING, vol.725, pp.51-56, 2018 (Peer-Reviewed Journal)
- XVI. **Shape memory behavior of Ni 40.3 Ti 39.7 Hf 15 Pd 5 and Ni 40. 3Ti 44.7 Hf 10 Pd 5 alloys**
Toker G., Saedi S., ACAR E., Ozbulut O., Karaca H.
JOURNAL OF ALLOYS AND COMPOUNDS, 2018 (Peer-Reviewed Journal)
- XVII. **Shape Memory Behavior of [111]-Oriented NiTi Single Crystals After Stress-Assisted Aging**
Kaya I., Tobe H., Karaca H. E. , ACAR E., CHUMLYAKOV Y.
ACTA METALLURGICA SINICA-ENGLISH LETTERS, vol.29, no.3, pp.282-286, 2016 (Peer-Reviewed Journal)
- XVIII. **Microstructure and shape memory behavior of [111]-oriented NiTiHfPd alloys**
ACAR E., Tobe H., Karaca H. E. , Noebe R. D. , Chumlyakov Y. I.
SMART MATERIALS AND STRUCTURES, vol.25, no.3, 2016 (Peer-Reviewed Journal)
- XIX. **Experimental investigation and modeling of the loading rate and temperature dependent superelastic response of a high performance shape-memory alloy**
Acar E., Ozbulut O. E. , Karaca H. E.
SMART MATERIALS AND STRUCTURES, vol.24, no.7, 2015 (Peer-Reviewed Journal)
- XX. **Dynamic mechanical response of a Ni45.7Ti29.3Hf20Pd5 alloy**
Acar E.
MATERIALS SCIENCE AND ENGINEERING A-STRUCTURAL MATERIALS PROPERTIES MICROSTRUCTURE AND PROCESSING, vol.633, pp.169-175, 2015 (Peer-Reviewed Journal)
- XXI. **Microstructure and transformation related behaviors of a Ni45.3Ti29.7Hf20Cu5 high temperature shape memory alloy**
Karaca H. E. , Acar E., Ded G. S. , Saghalian S. M. , Basaran B., Tobe H., Kok M., MAIER H. J. , Noebe R. D. , CHUMLYAKOV Y.
MATERIALS SCIENCE AND ENGINEERING A-STRUCTURAL MATERIALS PROPERTIES MICROSTRUCTURE AND PROCESSING, vol.627, pp.82-94, 2015 (Peer-Reviewed Journal)
- XXII. **Compressive response of Ni45.3Ti34.7Hf15Pd5 and Ni45.3Ti29.7Hf20Pd5 shape-memory alloys**
Acar E., Tobe H., Kaya I., Karaca H. E. , Chumlyakov Y. I.
JOURNAL OF MATERIALS SCIENCE, vol.50, no.4, pp.1924-1934, 2015 (Peer-Reviewed Journal)
- XXIII. **Orientation dependence of the shape memory properties in aged Ni45.3Ti29.7Hf20Pd5 single crystals**
Acar E., Karaca H. E. , Tobe H., Noebe R. D. , Chumlyakov Y. I.
INTERMETALLICS, vol.54, pp.60-68, 2014 (Peer-Reviewed Journal)
- XXIV. **NiTiHf-based shape memory alloys (Invited Review Paper)**
Karaca H., ACAR E., Tobe H., Saghalian S.
MATERIALS SCIENCE AND TECHNOLOGY, vol.30, pp.1530-1544, 2014 (Peer-Reviewed Journal)
- XXV. **Diffusionless phase transformation characteristics of Mn75.7Pt24.3**
Karaca H. E. , Saghalian S. M. , Tobe H., Acar E., Basaran B., Nagasako M., Kainuma R., Noebe R. D.
JOURNAL OF ALLOYS AND COMPOUNDS, vol.589, pp.412-415, 2014 (Peer-Reviewed Journal)
- XXVI. **Characterization of the shape memory properties of a Ni45.3Ti39.7Hf10Pd5 alloy**
Acar E., Karaca H. E. , Tobe H., Noebe R. D. , Chumlyakov Y. I.
JOURNAL OF ALLOYS AND COMPOUNDS, vol.578, pp.297-302, 2013 (Peer-Reviewed Journal)
- XXVII. **Shape memory behavior of high strength NiTiHfPd polycrystalline alloys**
Karaca H., ACAR E., Ded G., Basaran B., Tobe H., Noebe R., Bigelow G., Chumlyakov Y.
ACTA MATERIALIA, vol.61, no.13, pp.5036-5049, 2013 (Peer-Reviewed Journal)
- XXVIII. **Role of aging time on the microstructure and shape memory properties of NiTiHfPd single crystals**
ACAR E., Karaca H., Basaran B., Yang F., Mills M., Noebe R., Chumlyakov Y.
MATERIALS SCIENCE AND ENGINEERING A-STRUCTURAL MATERIALS PROPERTIES MICROSTRUCTURE AND PROCESSING, vol.573, pp.161-165, 2013 (Peer-Reviewed Journal)

- XXIX. **Effects of aging on [111] oriented NiTiHfPd single crystals under compression**
Karaca H., ACAR E., Basaran B., Noebe R., Bigelow G., Garg A., Yang F., Mills M., Chumlyakov Y.
SCRIPTA MATERIALIA, vol.67, pp.728-731, 2012 (Peer-Reviewed Journal)
- XXX. **Superelastic response and damping capacity of ultrahigh-strength [111]-oriented NiTiHfPd single crystals**
Karaca H., ACAR E., Basaran B., Noebe R., Chumlyakov Y.
SCRIPTA MATERIALIA, vol.67, no.5, pp.447-450, 2012 (Peer-Reviewed Journal)

Articles Published in Other Journals

- I. **Şekil hafıza davranışlarının termodinamiği**
ACAR E., AYDIN M.
POLİTEKNİK DERGİSİ, vol.0, no.0, 2018 (Peer-Reviewed Journal)
- II. **NiTiHf-tabanlı yüksek sıcaklıklı şekil hafızalı alaşımlar**
ACAR E.
Avrupa bilim ve teknoloji dergisi, 2018 (Peer-Reviewed Journal)
- III. **Şekil hafızalı alaşımların biyomedikal uygulamaları**
ACAR E.
Avrupa Bilim ve Teknoloji Dergisi, 2018 (Peer-Reviewed Journal)
- IV. **HAVACILIK VE UZAY UYGULAMALARINDA ŞEKİL HAFIZALI ALAŞIMLAR**
ACAR E., OKTAY T.
Ömer Halisdemir Üniversitesi Mühendislik Bilimleri Dergisi, 2018 (Peer-Reviewed Journal)
- V. **Havacılık ve Uzay Uygulamalarında Şekil Hafızalı Alaşımlar**
ACAR E., OKTAY T.
ÖMER HALİSDEMİR ÜNİVERSİTESİ MÜHENDİSLİK BİLİMLERİ DERGİSİ, vol.7, pp.1-10, 2018 (Peer-Reviewed Journal)
- VI. **Fonksiyonel Kademelendirilmiş Plakalarda Kalınlık Boyunca Kompozisyonel Değişimin Balistik Performans Üzerindeki Etkisinin İncelenmesi**
AYDIN M., ACAR E.
POLİTEKNİK DERGİSİ, vol.0, no.0, 2018 (Peer-Reviewed Journal)
- VII. **TiNi akıllı alaşımlarında faz dönüşüm özellikleri**
ACAR E.
Gazi Üniversitesi Fen Bilimleri Dergisi: PART:C "Tasarım ve Teknoloji" Dergisi, vol.4, no.3, pp.165-171, 2016 (Peer-Reviewed Journal)
- VIII. **TiNi Akıllı Alaşımlarında Faz Dönüşümleri ve Aktivasyon Enerjilerinin Belirlenmesi**
ACAR E.
Gazi Üniversitesi Fen Bilimleri Dergisi Part: C Tasarım ve Teknoloji, vol.4, no.3, pp.165-171, 2016 (Peer-Reviewed Journal)

Refereed Congress / Symposium Publications in Proceedings

- I. **INVESTIGATION OF WING CONNECTIONS OF VTOL UAV**
ŞAHİN O., Yazar E., ACAR E., UZUN M.
II. Uluslararası Multidisipliner Çalışmaları Kongresi, Adana, Turkey, 4 - 05 May 2018, pp.526-541
- II. **Stress generation in NiTiHfPd alloys**
ACAR E., ÇELİK H.
3rd International Conference on Engineering and Natural Sciences (ICENS 2017), Budapest, Hungary, 3 - 07 May 2017, pp.424

Other Publications

- I. **High Strength and Damping Capacity Shape Memory Alloys for Seismic Applications, 6WCSCM Proceedings**
Ozbulut O., ACAR E., Silwal B., Karaca H.
Other, pp.2182-2190, 2014

Supported Projects

ACAR E., Project Supported by Higher Education Institutions, NiTi esash akıllı alařım üretimi ve fonksiyonel özelliklerinin karakterizasyonu, 2017 - 2020

Scientific Refereeing

Journal of the Balkan Tribological Association, SCI Journal, August 2015

Journal of Materials Reserach, SCI Journal, May 2015

Project Supported by Higher Education Institutions, March 2015

Applied Physics-A, SCI Journal, April 2014

Metrics

Publication: 41

Citation (WoS): 377

Citation (Scopus): 385

H-Index (WoS): 11

H-Index (Scopus): 12