

Assoc. Prof. ESRA DOKUMACI ALKAN

Personal Information

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International Researcher IDs

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Publons / Web Of Science ResearcherID: P-9531-2019

ScopusID: 56533711800

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Education

Doctorate, Dokuz Eylul University, Fen Bilimleri Enstitüsü, Metalurji Ve Malzeme Mühendisliği (Dr), Turkey 2006 - 2012

Postgraduate, Dokuz Eylul University, Fen Bilimleri Enstitüsü, Metalurji Ve Malzeme Mühendisliği (Yl) (Tezli), Turkey 2003 - 2006

Undergraduate, Dokuz Eylul University, Mühendislik Fakültesi, Metalurji ve Malzeme Mühendisliği Bölümü, Turkey 1999 - 2003

Dissertations

Doctorate, Production and characterization of high temperature corrosion resistant materials., Dokuz Eylul University, Fen Bilimleri Enstitüsü, Metalurji Ve Malzeme Mühendisliği (Dr), 2012

Postgraduate, Investigation of high and low temperature corrosion behaviour of nickel-base alloys, Dokuz Eylul University, Fen Bilimleri Enstitüsü, Metalurji Ve Malzeme Mühendisliği (Yl) (Tezli), 2006

Research Areas

Physics, Astronomy and Astrophysics, Natural Sciences, Engineering and Technology

Academic and Administrative Experience

Dokuz Eylul University, 2020 - Continues

Courses

Doctorate

Aluminium Technologies, Doctorate, 2022 - 2023, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019

Ph.D. Thesis, Doctorate, 2020 - 2021, 2019 - 2020

Ph.D. Research, Doctorate, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2017 - 2018

Postgraduate

M.Sc. Seminar, Postgraduate, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2017 - 2018, 2016 - 2017, 2014 - 2015

M.Sc. Research, Postgraduate, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2017 - 2018, 2016 - 2017, 2015 - 2016, 2014 -

2015, 2013 - 2014

M.Sc. Thesis, Postgraduate, 2015 - 2016, 2014 - 2015, 2013 - 2014

Undergraduate

Isıl İşlemler, Undergraduate, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2017 - 2018

Thermodynamics of Solution, Undergraduate, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2017 - 2018, 2016 - 2017

Phase Diagrams, Undergraduate, 2022 - 2023, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2017 - 2018, 2016 - 2017, 2015 - 2016

Metallurgical Thermodynamics, Undergraduate, 2022 - 2023, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2017 - 2018, 2016 - 2017, 2015 - 2016

Malzeme Laboratuvarı, Undergraduate, 2020 - 2021, 2014 - 2015

Malzeme Bilgisi, Undergraduate, 2020 - 2021, 2019 - 2020, 2013 - 2014

Bitirme Projesi Hazırlık, Undergraduate, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2017 - 2018, 2016 - 2017, 2015 - 2016, 2014 - 2015, 2013 - 2014

Bitirme Projesi, Undergraduate, 2019 - 2020, 2018 - 2019, 2017 - 2018, 2016 - 2017, 2015 - 2016, 2014 - 2015

Technical English II, Undergraduate, 2018 - 2019, 2017 - 2018, 2016 - 2017

Mühendislik Malzemeleri, Undergraduate, 2017 - 2018, 2014 - 2015

Introduction to Materials Engineering, Undergraduate, 2017 - 2018, 2016 - 2017, 2015 - 2016, 2014 - 2015

Faz Diyagramları, Undergraduate, 2017 - 2018, 2016 - 2017, 2015 - 2016

Metalurji Termodinamiği, Undergraduate, 2017 - 2018

Tasarım ve Malzeme Seçimi, Undergraduate, 2016 - 2017, 2015 - 2016, 2014 - 2015

Malzeme Karakterizasyonu 2, Undergraduate, 2014 - 2015

Ergitme ve Katılaşma , Undergraduate, 2014 - 2015, 2013 - 2014

Malzeme Karakterizasyonu 1, Undergraduate, 2013 - 2014

Technical English 2, Undergraduate, 2013 - 2014

Temel Japonca, Undergraduate, 2013 - 2014

Supervised Theses

DOKUMACI ALKAN E., Production of superalloys via self propagating high temperature synthesis and coating applications on steel substrate, Postgraduate, N.ARI(Student), 2023

DOKUMACI ALKAN E., Kendiliğinden ilerleyen yüksek sıcaklık sentezi yöntemi ile hafif metal içerikli yüksek entropili alaşımların üretilmesi ve geliştirilmesi, Postgraduate, A.KARAKANAT(Student), 2022

DOKUMACI ALKAN E., Yüksek entropili alaşımların (YEA) vakum ark ergitme (VAM) yöntemi ile üretimi ve karakterizasyonu, Doctorate, S.GÜLER(Student), 2022

DOKUMACI ALKAN E., A356 alaşımı T6 ısıtma işlem optimizasyonu, Postgraduate, A.GÜNEREN(Student), 2019

DOKUMACI ALKAN E., Application of thermo-reactive diffusion to high speed tool steels used in cold forming processes for bolt and nut production, Postgraduate, E.ÖZCAN(Student), 2019

DOKUMACI ALKAN E., Development of the surface properties of alloys that produced for biomedical applications, Postgraduate, Ö.ÖZEN(Student), 2019

DOKUMACI ALKAN E., Improvement of the heat treatment practice for cylinder heads manufactured from AlSi7MgCu0.5 alloy, Postgraduate, E.KILINÇ(Student), 2018

DOKUMACI ALKAN E., Production of metallic biomaterials by vacuum arc melting method and investigation of their properties, Postgraduate, E.ELDEN(Student), 2016

Journal articles indexed in SCI, SSCI, and AHCI

1. Vacuum arc melted and heat treated AlCoCrFeNiTiX based high-entropy alloys: Thermodynamic and microstructural investigations

Guler S., Alkan E., Alkan M.

JOURNAL OF ALLOYS AND COMPOUNDS, vol.903, 2022 (SCI-Expanded)

- II. **Utilization of rice husk ash for production of sodium borosilicate glass cullets**
ÖZKAN İ., Dokumacı E.
JOURNAL OF THE AUSTRALIAN CERAMIC SOCIETY, vol.58, no.1, pp.151-156, 2022 (SCI-Expanded)
- III. **Cooling Behavior of A356 Alloy in Surfactant Quenching Medium**
Güneren A., DOKUMACI ALKAN E.
International Journal of Metalcasting, vol.14, no.2, pp.580-588, 2020 (SCI-Expanded)
- IV. **Effect of Vanadium and Zirconium Additions on Mechanical Properties and Microstructure of Gravity Die-Cast AlSi9Cu2 Alloy Cylinder Heads**
Kilinc E., Kiremitci N., Birol Y., DOKUMACI ALKAN E.
INTERNATIONAL JOURNAL OF METALCASTING, vol.13, no.1, pp.137-145, 2019 (SCI-Expanded)
- V. **Production of borosilicate cullet by using rice husk ash**
ÖZKAN İ., DOKUMACI ALKAN E.
ARABIAN JOURNAL OF GEOSCIENCES, vol.12, no.2, 2019 (SCI-Expanded)
- VI. **Cyclic Oxidation Behavior of c-BN and h-BN at Elevated Temperatures**
ÖZKAN İ., DOKUMACI ALKAN E., Onay A. B.
ACTA PHYSICA POLONICA A, vol.134, no.1, pp.61-63, 2018 (SCI-Expanded)
- VII. **Cyclic oxidation behavior of TiB2 pellets at elevated temperatures**
ÖZKAN İ., DOKUMACI ALKAN E., ÖNAY A. B.
JOURNAL OF THE AUSTRALIAN CERAMIC SOCIETY, vol.53, no.2, pp.415-420, 2017 (SCI-Expanded)
- VIII. **Densification of TiB2 with metallic additive by using vacuum arc melting: A preliminary study**
ÖZKAN İ., DOKUMACI ALKAN E., ÖNAY A. B.
JOURNAL OF THE AUSTRALIAN CERAMIC SOCIETY, vol.52, no.1, pp.42-46, 2016 (SCI-Expanded)
- IX. **In vitro comparison of epidural bacteria filters permeability and screening scanning electron microscopy**
Sener A., Erkin Y., Sener A., Tasdogan A., Dokumacı Alkan E., Elar Z.
REVISTA BRASILEIRA DE ANESTESIOLOGIA, vol.65, no.6, pp.491-496, 2015 (SCI-Expanded)
- X. **Effect of boronizing on the oxidation of niobium**
DOKUMACI ALKAN E., ÖZKAN İ., Ozyigit M. B., Onay B.
INTERNATIONAL JOURNAL OF REFRACTORY METALS & HARD MATERIALS, vol.41, pp.276-281, 2013 (SCI-Expanded)
- XI. **Effect of boronizing on the cyclic oxidation of stainless steel**
DOKUMACI ALKAN E., ÖZKAN İ., Onay B.
SURFACE & COATINGS TECHNOLOGY, vol.232, pp.22-25, 2013 (SCI-Expanded)
- XII. **Tribological Properties of Electric Arc-Sprayed CuSn Coating for Bearing Elements**
Toparli M., Celik E., Birlik I., DOKUMACI ALKAN E., AK AZEM N. F.
TRIBOLOGY TRANSACTIONS, vol.52, no.3, pp.389-394, 2009 (SCI-Expanded)
- XIII. **Wear behaviour of thermal flame sprayed FeCr coatings on plain carbon steel substrate**
UYULGAN B., DOKUMACI ALKAN E., Celik E., Kayatekin I., AK AZEM N. F., Ozdemir I., Toparli M.
JOURNAL OF MATERIALS PROCESSING TECHNOLOGY, vol.190, pp.204-210, 2007 (SCI-Expanded)

Articles Published in Other Journals

- I. **Recycling waste clay and rice husk ash in the production of low-density ceramics Düşük yoğunluklu seramik üretiminde atık kil ve pirinç kabuğu külünün geri dönüştürülmesi**
ÖZKAN İ., DOKUMACI ALKAN E.
El-Cezeri Journal of Science and Engineering, vol.8, no.1, pp.309-314, 2021 (Scopus)
- II. **Effect of Ultrasonic Treatment Parameters on Microstructural and Mechanical Properties of A356 Aluminum Alloy**

DOKUMACI E., AYBARÇ U., ÖNEL K.

International Journal of Automotive Science and Technology, vol.4, no.4, pp.234-243, 2020 (Peer-Reviewed Journal)

- III. **High Temperature Oxidation Behavior of Boron Carbide**
DOKUMACI E., ÖZKAN İ., ÖNAY A. B.
Journal of Boron, vol.3, no.3, pp.151-156, 2018 (Peer-Reviewed Journal)
- IV. **Gözenekli ZrB₂ Peletlerin Farklı Sıcaklıklardaki Oksidasyon Davranışları**
DOKUMACI E., ÖZKAN İ., ÖNAY A. B.
Deu Muhendislik Fakültesi Fen ve Muhendislik, vol.20, no.58, pp.1-9, 2018 (Peer-Reviewed Journal)
- V. **Aluminyum Gaz Giderme İşleminde Ultrasonik Yöntemin Kullanımı**
ÖNEL K., DOKUMACI E., EKEN C., ÇUBUKLUSU E., AYBARÇ U., ÇE Ö. B., KALENDER C., KIZILKAYA M.
Mühendis ve Makina, vol.56, no.667, pp.17-21, 2015 (Peer-Reviewed Journal)
- VI. **Alaçatı Çeşme Tüfünün KaroÜretiminde Kullanılabilirliğinin Araştırılması**
ÖZKAN İ., ZELİHA M., ELÇİ H., DOKUMACI E.
Afyon Kocatepe Üniversitesi Fen Bilimleri Dergisi, pp.189-195, 2009 (Peer-Reviewed Journal)
- VII. **FARE DOKULARININ TARAMALI ELEKTRON MİKROSKOP İÇİN PREPARASYONUNDA KRİTİK NOKTA KURUTMA VE HEKZAMETİLDİSİLAZAN İLE KURUTMA YÖNTEMLERİNİN KARŞILAŞTIRILMASI II- AKCİĞER VE MİDE BULGULARI**
TOPÇUOĞLU N., SELVİ N., DOKUMACI E.
Anadolu Üniversitesi Bilim ve Teknoloji Dergisi :A-Uygulamalı Bilimler ve Mühendislik, vol.10, no.1, pp.127-132, 2009 (Peer-Reviewed Journal)
- VIII. **C-276 Nikel Alaşımının Oksitlenme Davranışının SEM ile İncelenmesi**
DOKUMACI E., ÖNAY A. B.
Eskişehir Technical University Journal of Science and and Technology A- Applied Sciences and Engineering, vol.10, no.1, pp.285-290, 2009 (Peer-Reviewed Journal)

Books

- I. **HIGH-ENTROPY ALLOYS AND THEIR PRODUCTION VIA COMBUSTION SYNTHESIS**
Dokumacı Alkan E., Alkan M.
in: Advances in Combustion Synthesis and Technology, Mehmet Bugdayci and Levent Onel, Editor, Bentham Books, Sharjah, pp.183-196, 2022
- II. **THERMODYNAMIC MODELING OF COMBUSTION SYNTHESIS**
Alkan M., Dokumacı Alkan E.
in: Advances in Combustion Synthesis and Technology, Mehmet Bugdayci and Levent Onel, Editor, Bentham Books, Sharjah, pp.1-20, 2022
- III. **Production of AlCoCrFeNiME-Based High-Entropy Alloys via Self-Propagating High-Temperature Synthesis**
ALKAN M., DOKUMACI E., Türkoğlu B., Kara A., Aksu B., Uğurluer D.
in: TMS 2019 148th Annual Meeting Exhibition Supplemental Proceedings, The Minerals, Metals Materials Series, Editor, Springer, pp.1281-1287, 2019

Papers Presented at Peer-Reviewed Scientific Conferences

- I. **Production of Lightweight Metals Containing High-Entropy Alloys via SHS Process**
ALKAN M., DOKUMACI ALKAN E., Karakanat A.
Energy Technologies and CO₂ Management symposium, 2025, held as part of the TMS Annual Meeting and Exhibition, TMS 2025, Nevada, United States Of America, 23 - 27 March 2025, pp.185-198, (Full Text)
- II. **Machine Learning Design for Eutectic High-Entropy Alloys**

Özcan E., Dokumacı Alkan E.

22nd International Metallurgy and Materials Congress, İstanbul, Turkey, 19 - 21 September 2024, pp.1, (Summary Text)

- III. **A coating application of IN718 via self-propagating high-temperature synthesis method 274-277**
Dokumacı Alkan E., Arı N., Alkan M.
54th International October Conference on Mining, Belgrade, Serbia, 18 - 21 October 2023, vol.1, pp.274-277, (Full Text)
- IV. **Production of AlCoCrCuXFeNi alloys via self-propagating high-temperature synthesis method**
Alkan M., Dokumacı Alkan E., Uğurluer D., Karakanat A.
The 54th International October Conference on Mining and Metallurgy, Belgrade, Serbia, 18 - 21 October 2023, vol.1, pp.278-281, (Full Text)
- V. **Investigation The Utilization Of Rice Husk Ash In The Production Of Ceramic Coating Materials**
Özkan İ., Dokumacı Alkan E.
3rd Global Conference on Engineering Research (GLOB CER'23), Balıkesir, Turkey, 13 - 16 September 2023, pp.495, (Summary Text)
- VI. **Production of AlCoCrFeNiME-Based High-Entropy Alloys via Self-Propagating High-Temperature Synthesis**
ALKAN M., DOKUMACI ALKAN E., Turkoglu B., Kara A., Aksu B., Ugurluer D.
148th The-Minerals-Metals-and-Materials-Society (TMS) Annual Meeting and Exhibition (TMS) on Microelectronic Packaging, Interconnect, and Pb-Free Solder, San-Antonio, Northern Mariana Islands, 10 - 14 March 2019, pp.1281-1287, (Full Text)
- VII. **Characterization of Complex Coatings developed on AISI 4140 Steel Substrate by Stepwise Surface Modification Process**
DOKUMACI E., GARİP M., COŞKUN Y., TAŞÇILAR Y., ÖZKAN İ.
5th International Conference on Computational and Experimental Science and Engineering (ICCESSEN 2018), Antalya, Turkey, 12 - 16 October 2018, (Summary Text)
- VIII. **Production of borosilicate cullet by using rice husk ash**
ÖZKAN İ., DOKUMACI E.
5th International Conference on Computational and Experimental Science and Engineering (ICCESSEN 2018), Antalya, Turkey, 12 - 16 October 2018, (Summary Text)
- IX. **High Temperature Oxidation of Boron Carbide**
DOKUMACI E., ÖZKAN İ., ÖNAY A. B.
2.Uluslararası Malzeme Bilimi ve Teknolojisi Konferansı (IMSTEC'17), Nevşehir, Turkey, 11 - 13 October 2017, pp.597, (Summary Text)
- X. **Cyclic Oxidation Behavior of c-BN and h-BN at Elevated Temperatures**
ÖZKAN İ., DOKUMACI E., ÖNAY A. B.
7th International Advances in Applied Physics and Materials Science Congress Exhibition (APMAS2017), Fethiye, Turkey, 22 - 26 April 2017, pp.41, (Summary Text)
- XI. **Alaçatı Çeşme Tüfünün Karo Üretiminde Kullanılabilirliğinin Araştırılması**
ÖZKAN İ., Zeliha M., ELÇİ H., DOKUMACI E.
VII. Uluslararası Katılımlı Seramik Kongresi, Afyon, Turkey, 26 - 28 November 2008, pp.189-195, (Full Text)
- XII. **Oxidation Behavior of Mo Containing Alloys**
DOKUMACI ALKAN E., Oenay B.
7th International Symposium on High Temperature Corrosion and Protection of Materials, Les Embiez, France, 18 - 23 May 2008, pp.959-966, (Full Text)

Metrics

Publication: 39

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