

Asst. Prof. ERDEM AKÇA

Personal Information

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Education Information

Doctorate, Gebze Teknik Üniversitesi, Fen Bilimleri Enstitüsü, Malzeme Bilimi Ve Mühendisliği (Dr), Turkey 2010 - 2016

Postgraduate, Gebze Yüksek Teknoloji Enstitüsü, Mühendislik Ve Fen Bilimleri Enstitüsü, Malzeme Bilimi Ve Mühendisliği (YI) (Tezli), Turkey 2007 - 2010

Undergraduate, Anadolu Üniversitesi, Mühendislik-Mimarlık Fakültesi, Malzeme Bilimi Ve Mühendisliği Bölümü, Turkey 2002 - 2007

Foreign Languages

English, C1 Advanced

Dissertations

Doctorate, Çevre dostu KNN ferroelektrik seramiklerin yüksek güç ultrasonik uygulamalar için modifikasyonu, Gebze Teknik Üniversitesi, Fen Bilimleri Enstitüsü, Malzeme Bilimi Ve Mühendisliği (Dr), 2016

Postgraduate, Kurşun esaslı elektroseramik tozların sentezlenmesi, seramiklerin üretilmesi ve karakterizasyonları, Gebze Yüksek Teknoloji Enstitüsü, Mühendislik Ve Fen Bilimleri Enstitüsü, Malzeme Bilimi Ve Mühendisliği (YI) (Tezli), 2010

Research Areas

Metallurgical and Materials Engineering, Material science and engineering, Ceramic Materials, Testing and Control of Materials, Physical Properties, Electrical and Magnetic Properties, Composites, Material Characterization, Nanomaterials, Thermal Properties, Structure-Property Relationship, Powder Metallurgy, Engineering and Technology

Academic Titles / Tasks

Assistant Professor, Sivas Cumhuriyet University, Mühendislik Fakültesi, Metalürji Mühendisliği, 2017 - Continues

Research Assistant, Gebze Teknik Üniversitesi, Mühendislik Fakültesi, Malzeme Bilimi Ve Mühendisliği Bölümü, 2007 - 2016

Academic and Administrative Experience

Deputy Head of Department, Sivas Cumhuriyet University, Mühendislik Fakültesi, Metalurji Ve Malzeme Mühendisliği Bölümü, 2017 - 2020

Courses

Sintering Theory and Particle Processing, Postgraduate, 2018 - 2019, 2019 - 2020, 2021 - 2022
Electrical Properties of Materials, Undergraduate, 2018 - 2019, 2019 - 2020, 2020 - 2021
Materials Selection and Design, Undergraduate, 2017 - 2018, 2018 - 2019, 2019 - 2020, 2020 - 2021
Transport Phenomena, Undergraduate, 2017 - 2018, 2018 - 2019, 2019 - 2020, 2020 - 2021, 2021 - 2022
Seminar, Postgraduate, 2021 - 2022
Polymer Materials, Undergraduate, 2017 - 2018, 2018 - 2019, 2019 - 2020, 2020 - 2021, 2021 - 2022
Introduction to Metallurgical and Materials Engineering, Undergraduate, 2017 - 2018, 2018 - 2019, 2019 - 2020, 2020 - 2021, 2021 - 2022
Dielectrics ve Electroceramics, Postgraduate, 2021 - 2022
Bitirme Ödevi, Undergraduate, 2019 - 2020, 2020 - 2021
Bitirme Ödevi, Undergraduate, 2017 - 2018, 2018 - 2019
Proje yönetimi, Undergraduate, 2017 - 2018
Metallurgical Project 2, Undergraduate, 2017 - 2018
Metalografi Laboratuvarı, Undergraduate, 2017 - 2018
Seramik Laboratuvarı, Undergraduate, 2017 - 2018
Materials Selection and Design, Undergraduate, 2017 - 2018
Proje Yönetimi, Undergraduate, 2017 - 2018
Metallurgical Engineering Project 2, Undergraduate, 2017 - 2018
Transport Phenomena, Undergraduate, 2017 - 2018
Metalurji Mühendisliği Projesi 1, Undergraduate, 2017 - 2018
Metallurgical Engineering Project 1, Undergraduate, 2017 - 2018
Polymer Materials, Undergraduate, 2017 - 2018

Jury Memberships

Post Graduate, Post Graduate, Afyon Kocatepe Üniversitesi, August, 2021
Doctoral Examination, Doctoral Examination, Sivas Cumhuriyet Üniversitesi, March, 2021

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

- I. **Templated grain growth of Bi(Zn_{0.5}Zr_{0.5})O₃ modified BiScO₃-PbTiO₃ piezoelectric ceramics for high temperature applications**
Akça E., Duran C., Kowalski B., Sehirlioglu A.
JOURNAL OF ASIAN CERAMIC SOCIETIES, 2021 (Journal Indexed in SCI)
- II. **Effect of process parameters on the electrodeposition of zinc on 1010 Steel: Central composite design optimization**
Kul M., OSKAY K. O. , Erden F., AKÇA E., Katirci R., Köksal E., Akinci E.
International Journal of Electrochemical Science, vol.15, pp.9779-9795, 2020 (Journal Indexed in SCI Expanded)
- III. **Lead-free potassium sodium niobate piezoceramics for high-power ultrasonic cutting application: Modelling and prototyping**
AKÇA E., YILMAZ H.
PROCESSING AND APPLICATION OF CERAMICS, vol.13, no.1, pp.65-78, 2019 (Journal Indexed in SCI)
- IV. **Processing and characterization of < 001 >-textured Pb(Mg_{1/3}Nb_{2/3})O₃-Pb(Yb_{1/2}Nb_{1/2})O₃-PbTiO₃ ceramics**
DURAN C., Cengiz S., Ecebas N., Dursun S., AKÇA E.
JOURNAL OF MATERIALS RESEARCH, vol.32, no.13, pp.2471-2478, 2017 (Journal Indexed in SCI)
- V. **High strain, < 001 >-textured Pb(Mg_{1/3}Nb_{2/3})O₃-Pb(Yb_{1/2}Nb_{1/2})O₃-PbTiO₃ piezoelectric**

ceramics

DURAN C., Dursun S., Akca E.

SCRIPTA MATERIALIA, vol.113, pp.14-17, 2016 (Journal Indexed in SCI)

- VI. **Sintering behavior and electrical properties of K₄CuNb₈O₂₃ modified K_{0.5}Na_{0.5}Nb₃O₁₀ ceramics with SnO₂, ZnO or Yb₂O₃ doping**
Akca E., Yilmaz H.
CERAMICS INTERNATIONAL, vol.41, no.3, pp.3659-3667, 2015 (Journal Indexed in SCI)
- VII. **Dielectric and electromechanical properties of Mn-doped 0.2875 Pb(Mg_{1/3}Nb_{2/3})O₃-0.2875 Pb(Yb_{1/2}Nb_{1/2})O₃-0.425 PbTiO₃ ceramics**
Akca E., Tatar I., DURAN C.
JOURNAL OF MATERIALS SCIENCE, vol.48, no.23, pp.8287-8291, 2013 (Journal Indexed in SCI)
- VIII. **Fabrication and characterization of (Pb(Mg_{1/3}Nb_{2/3})O₃, Pb(Yb_{1/2}Nb_{1/2})O₃, PbTiO₃) ternary system ceramics**
Akca E., Duran C.
CERAMICS INTERNATIONAL, vol.37, no.7, pp.2135-2142, 2011 (Journal Indexed in SCI)
- IX. **Processing and Electrical Properties in Lead-Based (Pb(Mg_{1/3}Nb_{2/3})O₃, Pb(Yb_{1/2}Nb_{1/2})O₃, PbTiO₃) Systems**
Akca E., Yilmaz H., Duran C.
JOURNAL OF THE AMERICAN CERAMIC SOCIETY, vol.93, no.1, pp.28-31, 2010 (Journal Indexed in SCI)

Articles Published in Other Journals

- I. **Optimization of Molding Unused New Sand Composition by Mixture Design Method**
Kul M., Oskay K. O., Akça E., Alsan A. E., Karaca B.
Cumhuriyet Science Journal, vol.39, no.2, pp.512-523, 2018 (Refereed Journals of Other Institutions)
- II. **Üç Bileşenli Pb(Mg_{1/3}Nb_{2/3})O₃-Pb(Yb_{1/2}Nb_{1/2})O₃- PbTiO₃ Piezoseramiklerinde Mn İlavesi İle Elektriksel Sert Karakter Kazandırılması**
AKÇA E., TATAR İ., YILMAZ H., DURAN C.
Afyon Kocatepe Üniversitesi Fen Bilimleri Dergisi, vol.14, no.3, pp.85-91, 2014 (Other Refereed National Journals)

Refereed Congress / Symposium Publications in Proceedings

- I. **PNN-PZT Ferroelektriklerinde Fe Katkılandırılmasının Etkisi**
YILMAZ H., Teber M., AKÇA E.
ElektroseramikTR, Turkey, 2 - 03 November 2017
- II. **ÇEVRE DOSTU KNN (K_{0.5}Na_{0.5}Nb₃O₁₀) PİEZOSERAMİKLERİNE KATKILANDIRMANIN VE SİNERLEME ATMOSFERİNİN ETKİSİ**
YILMAZ H., MURUTOĞLU M., AKÇA E.
ElektroseramikTR, Turkey, 2 - 03 November 2017
- III. **K_{0.5}Na_{0.5}Nb₃O₁₀ Based Eco firendly Lead free Piezoceramics Processing to Application**
AKÇA E., YILMAZ H.
9. Uluslararası Katılımlı Seramik Kongresi, Afyonkarahisar, 26 - 28 November 2015
- IV. **Pb Mg_{1/3} Nb_{2/3} O₃ Pb Yb_{1/2} Nb_{1/2} O₃ PbTiO₃ Ternary System Processing Properties and Transducer Application**
DURAN C., GÖÇMEZ H., ORHUN C., TATAR İ., AKÇA E.
Joint IEEE International Symposium on Applications of Ferroelectric (ISAF), International Symposium on Integrated Functionalities (ISIF), and Piezoresponse Force Microscopy Workshop (PFM) (ISAF-ISIF-PFM 2015), Singapore, 24 - 27 May 2015
- V. **Sodium Potassium Niobate Based Eco friendly Lead free Piezoceramics Sintering Study**

YILMAZ H., AKÇA E.

3. International Ceramic, Glass, Porcelain, Enamel, Glaze and Pigment Congress (SERES'14), Eskişehir, Turkey, 15 - 17 October 2014

VI. Sodium Potassium Niobate Based Eco friendly Lead free Piezoceramics Effect of Dopants on the Electrical Properties

AKÇA E., YILMAZ H.

3. International Ceramic, Glass, Porcelain, Enamel, Glaze and Pigment Congress (SERES'14), Eskişehir, Turkey, 15 - 17 October 2014

VII. Fabrication and characterization of Pb Mg₁ 3Nb₂ 3 O₃ Pb Yb₁ 2Nb₁ 2 O₃ PbTiO₃ ternary system ceramics

AKÇA E., ERDAĞ İ., GÖÇMEZ H., DURAN C.

The 8th Asian Meeting on Ferroelectrics (AMF-8), PATTAYA, Thailand, 9 - 14 December 2012

VIII. Üç Bileşenli Pb Mg₁ 3Nb₂ 3 O₃ Pb Yb₁ 2Nb₁ 2 O₃ PbTiO₃ Piezoseramiklerine Mn İlavesi İle Elektriksel Sert Karakter Kazandırılması

AKÇA E., TATAR İ., YILMAZ H., DURAN C.

Uluslararası Katılımlı VIII. Seramik Kongresi, AFYONKARAHİSAR, 22 - 25 November 2012

IX. Processing and Electrical Properties in Lead Based Pb Mg₁ 3Nb₂ 3 O₃ Pb Yb₁ 2Nb₁ 2 O₃ PbTiO₃ Systems

AKÇA E., YILMAZ H., DURAN C.

The IMF-ISAF-2009, a joint meeting of 12th International Meeting on Ferroelectricity and 18th IEEE International Symposium on Applications of Ferroelectrics, Xian, China, 23 - 27 August 2009

Supported Projects

Akça E., Duran C., TUBITAK Project, Üstün performans gerektiren yüksek sıcaklık piezoelektrik uygulamalara yönelik kristalografik dokulu BiScO₃-PbTiO₃ esaslı seramiklerinin şablonlu tane büyümesi yöntemi ile üretilmesi ve proses-yapı-özellik ilişkisinin irdelenmesi, 2021 - 2023

KUL M., AKÇA E., OSKAY K. O. , KUMRUOĞLU L. C. , Project Supported by Higher Education Institutions, ELEKTROLİZ İLE ÇİNKO KAPLAMA ŞARTLARININ OPTİMİZASYONU, 2017 - 2018

Akça E., Yılmaz H., Project Supported by Higher Education Institutions, Çok katmanlı aktüatör uygulamaları için Pb(Ni₁/3Nb₂/3)O₃-PbZrO₃-PbTiO₃ seramiklerin pizelektrik özelliklerinin modifiye edilmesi ve prototip üretilmesi, 2015 - 2016

Citations

Total Citations (WOS):50

h-index (WOS):5