

Prof. ŞİNASİ BARIŞ EMRE

Personal Information

Web: <https://avesis.ankara.edu.tr/bemre>

International Researcher IDs

ScholarID: EihdTIYAAAAJ

ORCID: 0000-0003-3468-7026

ScopusID: 25622206400

Yoksis Researcher ID: 103348

Education Information

Doctorate, Ankara University, Fen Bilimleri Enstitüsü, Fizik Mühendisliği (Dr), Turkey 2003 - 2008

Postgraduate, Ankara University, Fen Bilimleri Enstitüsü, Fizik Mühendisliği (YI) (Tezli), Turkey 2000 - 2003

Undergraduate, Middle East Technical University, Fen-Edebiyat Fakültesi, Fizik Bölümü, Turkey 1995 - 2000

Dissertations

Doctorate, La_{1-x}R_xMn₂Si₂ (R: Pr,Nd, Sm, Gd, Tb, Dy, Er, Ho, Ce) alaşımlarının hacimsel (bulk), şerit ve nano yapılarının, kristal yapılarının, manyetik, direnç, ısı sıgası ve manyetokalorik özelliklerinin incelenmesi, Ankara University, Fen Bilimleri Enstitüsü, Fizik Mühendisliği (Dr), 2008

Postgraduate, La_{1-x}TbxMn₂Si₂ intermetalik bileşiklerinin yapısal ve magnetik özellikleri, Ankara University, Fen Bilimleri Enstitüsü, Fizik Mühendisliği (YI) (Tezli), 2003

Research Areas

Physics

Academic Titles / Tasks

Professor, Ankara University, Mühendislik Fakültesi, Fizik Mühendisliği Bölümü, 2021 - Continues

Associate Professor, Ankara University, Mühendislik Fakültesi, Fizik Mühendisliği Bölümü, 2014 - 2021

Assistant Professor, Ankara University, Mühendislik Fakültesi, Fizik Mühendisliği Bölümü, 2013 - 2014

Research Assistant, Ankara University, Mühendislik Fakültesi, Fizik Mühendisliği Bölümü, 2002 - 2013

Courses

CONDENSED MATTER PHYSICS , Undergraduate, 2022 - 2023

MECHANICS , Undergraduate, 2022 - 2023

PHYSICS OF CRYSTALS , Undergraduate, 2022 - 2023

Katıhal Fiziği II, Undergraduate, 2014 - 2015, 2013 - 2014

Fizik II, Undergraduate, 2014 - 2015, 2013 - 2014, 2012 - 2013

Fizik I, Undergraduate, 2014 - 2015, 2013 - 2014, 2012 - 2013

Advising Theses

- EMRE Ş. B., Invesgitation of martensitic phase transformation and caloric properties of Ti doped NiMnIn magnetic shape memory alloys, Postgraduate, T.KARABACAK(Student), 2019
- EMRE Ş. B., Investigation of martensitic phase transformation and caloric properties of ti doped nicomin magnetic shape memory alloys, Postgraduate, E.ODA(Student), 2019
- EMRE Ş. B., Investigation of martensitic transformation and magnetocaloric effect in nickel – cobalt – mangan – tin magnetic shape memory alloys, Postgraduate, V.ERDOĞAN(Student), 2018
- Emre B., Investigation of martensitic transformation and magnetocaloric effect in nickel – cobalt – mangan – tin magnetic shape memory alloys, Postgraduate, V.Erdoğan(Student), 2018

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Influence of pH value of precursor on growth, structural, and optical properties of Cu₂O thin films grown in Mist-CVD**
Kutlu-Narin E., NARİN P., EMRE Ş. B., LİŞESİVDİN S. B.
Physica B: Condensed Matter, vol.681, 2024 (SCI-Expanded)
- II. **Tuning of the magneto-caloric effects in Ni₄₃Mn₄₆In₁₁ magnetic shape memory alloys by substitution of boron**
Saritas S., ÇİÇEK M. M., KAVAK E., Gurpinar K., Yildirim O., Yuce S., ATAKOL O., Emre B.
JOURNAL OF PHYSICS-CONDENSED MATTER, no.7, 2024 (SCI-Expanded)
- III. **Investigation of the inverse magnetocaloric effect with the fraction method**
Yuce S., KAVAK E., Yildirim O., Bruno N., EMRE Ş. B.
Journal of physics. Condensed matter : an Institute of Physics journal, vol.35, no.34, 2023 (SCI-Expanded)
- IV. **Investigation of the complex magnetic behavior of Ni_{46.86}Co_{2.91}Mn_{38.17}Sn_{12.06} (at%) magnetic shape memory alloy at low temperatures**
Yildirim O., YÜCE EMRE S., Bruno N. M., Doğan E., YURTSEVEN H. H., DUMAN E., Emre B.
PHYSICA SCRIPTA, vol.97, no.8, 2022 (SCI-Expanded)
- V. **Giant and Reversible Barocaloric Effect in Trinuclear Spin-Crossover Complex Fe₃(bntrz)₆(tcnset)₆**
Romanini M., Wang Y., Gurpinar K., Ornelas G., Lloveras P., Zhang Y., Zheng W., Barrio M., Aznar A., Gracia-Condal A., et al.
Advanced Materials, vol.33, no.10, 2021 (SCI-Expanded)
- VI. **Effect of the low constituent boron on martensitic transformation, magnetic, and magnetocaloric properties of Ni₅₀Mn₃₅In₁₅ Heusler alloys**
ÇİÇEK M. M., Saritas S., Yildirim O., EMRE Ş. B.
JOURNAL OF ALLOYS AND COMPOUNDS, vol.845, 2020 (SCI-Expanded)
- VII. **Investigation of Ti substituting for Ni on magnetic, magnetocaloric and phase transition characteristics of Ni₅₀Mn₃₆In₁₄**
Emre B., Yildirim O., DUMAN E.
Materials Research Express, vol.6, no.7, 2019 (SCI-Expanded)
- VIII. **Martensitic transformation and magnetocaloric properties of NiCoMnSn magnetic shape memory alloys**
Emre B., YÜCE EMRE S., Bruno N. M., Karaman I.
Intermetallics, vol.106, pp.65-70, 2019 (SCI-Expanded)
- IX. **Analysis of Magnetization as a Function of Temperature for CoMn_{1-x}FexGe**
Yuce S., Dogan E. K., Emre B., Bruno N. M., Karaman I., YURTSEVEN H. H.
Journal of Superconductivity and Novel Magnetism, vol.30, no.12, pp.3587-3594, 2017 (SCI-Expanded)

- X. **Accessibility investigation of large magnetic entropy change in CoMn_{1-x}FexGe**
 Yuce S., Bruno N. M., Emre B., Karaman I.
Journal of Applied Physics, vol.119, no.13, 2016 (SCI-Expanded)
- XI. **Calculation of the H-T phase diagram, magnetization and susceptibility in layered structures**
 YURTSEVEN H. H., Dogan E. K., Emre B., Acet M.
Journal of Magnetism and Magnetic Materials, vol.393, pp.544-550, 2015 (SCI-Expanded)
- XII. **Tailoring barocaloric and magnetocaloric properties in low-hysteresis magnetic shape memory alloys**
 Stern-Taulats E., Planes A., Lloveras P., Barrio M., Tamarit J., Pramanick S., Majumdar S., YÜCE EMRE S., Emre B., Frontera C., et al.
Acta Materialia, vol.96, pp.324-332, 2015 (SCI-Expanded)
- XIII. **Ferromagnetic and antiferromagnetic properties in layered structures (La_{0.6}Nd_{0.4}Mn₂Si₂)**
 Dogan E. K., Emre B., YURTSEVEN H. H.
Journal of Molecular Structure, vol.1089, pp.178-183, 2015 (SCI-Expanded)
- XIV. **Analysis of the Magnetization as a Function of the Magnetic Field at the Transition Temperature for La_{0.6}Nd_{0.4}Mn₂Si₂**
 YURTSEVEN H. H., Dogan E. K., Emre B., Acet M.
Journal of Superconductivity and Novel Magnetism, vol.28, no.3, pp.873-876, 2015 (SCI-Expanded)
- XV. **Effect of niobium addition on the martensitic transformation and magnetocaloric effect in low hysteresis NiCoMnSn magnetic shape memory alloys**
 Emre B., Bruno N. M., YÜCE EMRE S., Karaman I.
Applied Physics Letters, vol.105, no.23, 2014 (SCI-Expanded)
- XVI. **Barocaloric effect in metamagnetic shape memory alloys**
 Manosa L., Stern-Taulats E., Planes A., Lloveras P., Barrio M., Tamarit J., Emre B., YÜCE EMRE S., Fabbrici S., Albertini F.
Physica Status Solidi (B) Basic Research, vol.251, no.10, pp.2114-2119, 2014 (SCI-Expanded)
- XVII. **NMR study of ferromagnetic and antiferromagnetic states of La_{1-x}NdxMn₂Si₂ (x = 0.35 and 0.40)**
 Shimizu K., Matsumoto M., Yamaguchi M., Emre B., Dincer I., Elerman Y.
Journal of Alloys and Compounds, vol.584, pp.640-645, 2014 (SCI-Expanded)
- XVIII. **An investigation of magnetocaloric effect and its implementation in critical behavior study of La_{1-x}NdxMn₂Si₂ compounds**
 Emre B., Dincer I., Elerman Y., Aksoy Esinoğlu S.
Solid State Sciences, vol.22, pp.1-7, 2013 (SCI-Expanded)
- XIX. **Large reversible entropy change at the inverse magnetocaloric effect in Ni-Co-Mn-Ga-In magnetic shape memory alloys**
 Emre B., Yuece S., Stern-Taulats E., Planes A., Fabbrici S., Albertini F., Manosa L.
Journal of Applied Physics, vol.113, no.21, 2013 (SCI-Expanded)
- XX. **Metamagnetic phase transitions in La_{1-x}NdxMn₂Si₂**
 Emre B., YURTSEVEN H. H.
Journal of Superconductivity and Novel Magnetism, vol.26, no.4, pp.1411-1413, 2013 (SCI-Expanded)
- XXI. **Magnetothermal study of La_{1-x}NdxMn₂Si₂ (x=0.35 and 0.40) compounds**
 Emre B., Dincer I., Elerman Y.
Physica B: Condensed Matter, vol.413, pp.82-85, 2013 (SCI-Expanded)
- XXII. **Analysis of heat capacity and magnetothermal properties of the La 0.775Gd 0.225Mn 2Si 2 compound**
 Emre B., Dincer I., Elerman Y.
Intermetallics, vol.31, pp.16-20, 2012 (SCI-Expanded)
- XXIII. **Barocaloric effect in the magnetocaloric prototype Gd 5Si 2Ge 2**
 Yuce S., Barrio M., Emre B., Stern-Taulats E., Planes A., Tamarit J., Mudryk Y., Gschneidner K. A., Pecharsky V. K., Manosa L.
Applied Physics Letters, vol.101, no.7, 2012 (SCI-Expanded)

- XXIV. **Investigation of the nature of the unusual magnetic behavior of La_{0.65}Nd_{0.35}Mn₂Si₂ compound by neutron diffraction study**
 Emre B., Dincer I., Hoelzel M., Senyshyn A., Elerman Y.
Journal of Magnetism and Magnetic Materials, vol.324, no.4, pp.622-630, 2012 (SCI-Expanded)
- XXV. **Thermal and magnetothermal properties of La_{0.5}Pr_{0.5}Mn₂Si₂**
 Emre B., Dincer I., DUMAN E., Elerman Y.
Solid State Communications, vol.151, no.24, pp.2004-2007, 2011 (SCI-Expanded)
- XXVI. **Heat capacity and magnetothermal properties of La_{0.8}Sm_{0.2}Mn₂Si₂**
 Emre B., Dincer I., Elerman Y.
Solid State Communications, vol.150, no.29-30, pp.1279-1282, 2010 (SCI-Expanded)
- XXVII. **Magnetic and magnetocaloric results of magnetic field-induced transitions in La_{1-x}CexMn₂Si₂ (x=0.35 and 0.45) compounds**
 Emre B., Dincer I., Elerman Y.
Journal of Magnetism and Magnetic Materials, vol.322, no.4, pp.448-453, 2010 (SCI-Expanded)
- XXVIII. **Inverse and conventional magnetic entropy change in La_{0.8}Sm_{0.2}Mn₂Si₂ and La_{0.775}Gd_{0.225}Mn₂Si₂ compounds**
 Emre B., Dincer I., Elerman Y., Duman E.
Physica Scripta, vol.80, no.5, 2009 (SCI-Expanded)
- XXIX. **Magnetocaloric effect in Tb₅Si_{2-x}Ge_{2-x}Fe_{2x} (0 ≤ 2x ≤ 0.1) compounds**
 Yuezeak E., Emre B., Yuecel A., Elerman Y.
Journal of Alloys and Compounds, vol.476, no.1-2, pp.929-934, 2009 (SCI-Expanded)
- XXX. **Magnetic and Magnetocaloric Result of Magnetic Field-induced Transitions in La_{1-x}CexMn₂Si₂**
 Emre B., Dincer I., Elerman Y.
ACTA CRYSTALLOGRAPHICA A-FOUNDATION AND ADVANCES, vol.65, 2009 (SCI-Expanded)
- XXXI. **Antiferromagnetic-ferromagnetic crossover in La_{0.5}Pr_{0.5}Mn₂Si₂ and its consequences on magnetoelastic and magnetocaloric properties**
 Emre B., Aksoy Esinoğlu S., Posth O., Acet M., Duman E., Lindner J., Elerman Y.
Physical Review B - Condensed Matter and Materials Physics, vol.78, no.14, 2008 (SCI-Expanded)

Articles Published in Other Journals

- I. **La_{1-x}CexMn₂Si₂ (x=0.35 ve 0.45) kritik davranışının manyetik entropi değişim bağılığına göre araştırılması**
 EMRE Ş. B.
Balıkesir Üniversitesi Fen Bilimleri Enstitüsü Dergisi, pp.1-12, 2018 (Peer-Reviewed Journal)

Books & Book Chapters

- I. **Entropi**
 EMRE Ş. B., SELBUZ L.
 in: *Fizik İlkeleri ve Pratik*, Abdullah Verçin, Ali Ulvi Yılmazer, Editor, Nobel, Ankara, pp.501-528, 2015

Refereed Congress / Symposium Publications in Proceedings

- I. **Revealing the low and high temperature magnetic behavior of Ni_{46.86}Co_{2.91}Mn_{38.17}Sn_{12.06} shape memory compound**
 YÜCE EMRE S., KİLİT DOĞAN E., DUMAN E., Yıldırım O., EMRE Ş. B.
INTERNATIONAL EURASIAN CONFERENCE ON SCIENCE, ENGINEERING AND TECHNOLOGY(EURASIANSCIENTECH

2018), 22 - 23 November 2018

- II. **Magnetic Structure and Phase Transition of Ni₄₅Co₅Mn₃₉Sn₁₁ Magnetic Shape memory Compound**
Yıldırım O., YÜCE EMRE S., ERDOĞAN V., DUMAN E., EMRE Ş. B.
The International Conference on Material Science and Technology in Cappadocia(IMSTEC 2018), 17 - 19 September 2018
- III. **Calorimetric Study of Hysteresis Effects on the Magnetocaloric Effect**
EMRE Ş. B., Stern Taulat E., YÜCE EMRE S., Bruno N., Planes A., Manosa L., Karaman I.
5. CIMTEC 5th International Conference "Smart and Multifunctional Materials, Structures and Systems, 5 - 09 June 2016
- IV. **Martensitic transformation and effect of hysteresis on the magnetocaloric properties of Ni_{Co}MnSn magnetic shape memory alloys**
EMRE Ş. B., YÜCE EMRE S., Bruno N., Karaman İ.
European Symposium on Martensitic Transformations (ESOMAT), Antwerp, Belgium, 14 - 18 September 2015

Supported Projects

Emre Ş. B., TUBITAK Project, Termoelektrik Modüllerde Kullanılacak Üstün Özellikli Termoelektrik Malzemelerin ve İnce Filmlerin Geliştirilmesi, 2019 - 2026

Emre Ş. B., Atakol O., Duman E., TUBITAK Project, Spin-Crossover Filmlerin Elastokalorik Özelliklerinin Açıga Çıkarılması, 2021 - 2024

Emre Ş. B., Atakol O., TUBITAK Project, Spin Cross-Over Malzemelerin Gizli Özelliği: Devasa Barokalorik Potansiyel, 2018 - 2022

Emre Ş. B., TUBITAK Project, Sc₁-Xtixf₃ Malzemesinde Barokalorik Etkinin Araştırılması, 2018 - 2020

EMRE Ş. B., Project Supported by Higher Education Institutions, Harekete Duyarlı Aydınlatma ve Güvenlik Sistemi Yapımı, 2017 - 2018

EMRE Ş. B., Project Supported by Higher Education Institutions, Ni_{Co}MnSn ailesinden düşük histerisisli malzemelerin manyetik ve manyetokalorik özelliklerinin incelenmesi, 2015 - 2016

EMRE Ş. B., Project Supported by Higher Education Institutions, Proje No: 08B4343005 Ferromanyetik Ni- ve Co-tabanlı Heusler Alaşımının Yapısal, Manyetokalorik, Isısal, Elektriksel ve Spintronik Özelliklerinin İncelenmesi, 2008 - 2011

EMRE Ş. B., TUBITAK Project, La_{0.65}Nd_{0.35}Mn₂Si₂ Alaşımının Manyetik, Isısal Ve Manyetokalorik Özelliklerine Manyetik Alanın Etkisinin Araştırılması, 2009 - 2010

EMRE Ş. B., Project Supported by Other Official Institutions, Ferromanyetik Ni ve Co Tabanlı Heusler Alaşımının Yapısal Isısal Elektriksel ve Spintronik Özelliklerinin İncelenmesi, Proje No: 08B4343005, 2007 - 2010

EMRE Ş. B., Other International Funding Programs, Nadir yer elementi grup 4 sistemlerinin manyetik manyetokalorik etkileri ve yapısal karakterlerini incelenmesi, 2005 - 2008

EMRE Ş. B., KABAK M., ELMALI A., TUBITAK Project, RxR₁xMn₂Ge₂ RMn₆Ge₆ xGax ve R_xR₁xMn₆Ge₆ R R Ce Pr Sm La Y Tb Dy Nd ve T Fe Co Cu Ni Cr Alaşım ve Nanoalaşımın Fiziksel Özellikleri ve Magnetik Direnci, 2002 - 2005

Metrics

Publication: 37

Citation (WoS): 538

Citation (Scopus): 594

H-Index (WoS): 11

H-Index (Scopus): 12

Scholarships

doktora sonrası araştırma bursu, YOK, 2013 - 2013

2219 doktora sonrası araştırma bursu, TUBITAK, 2011 - 2012