

Assoc. Prof. TELEŞİM ŞİMŞEK

Personal Information

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International Researcher IDs

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Education Information

Post Doctorate, Stanford University, Material Science, United States Of America 2018 - 2019

Doctorate, Hacettepe University, Mühendislik Fakültesi, Fizik Mühendisliği Bölümü, Turkey 2009 - 2015

Postgraduate, Hacettepe University, Mühendislik Fakültesi, Fizik Mühendisliği Bölümü, Turkey 2006 - 2009

Undergraduate, Middle East Technical University, Faculty Of Education, Mathematics And Science Education, Turkey 2003 - 2006

Foreign Languages

English, C1 Advanced

Dissertations

Doctorate, Değiş-tokuş etkileşimi çiftlenimli nanomıknatısların manyetik özelliklerinin incelenmesi, Hacettepe Üniversitesi, Fen Bilimleri Enstitüsü, Fizik Mühendisliği (Dr), 2015

Postgraduate, FePt nanoparçacıkların kimyasal yöntem ile sentezlenmesi ve magnetik özelliklerinin belirlenmesi, Hacettepe Üniversitesi, Mühendislik Fakültesi, Fizik Mühendisliği Bölümü, 2009

Research Areas

Physics, Intensive Article 2: Electronic Structure, Electric, Magnetic and Optical Properties, Natural Sciences

Academic Titles / Tasks

Assistant Professor, Hacettepe University, Fen Bilimleri Enstitüsü, Nanoteknoloji ve Nanotip A.B.D., 2020 - Continues
Research Assistant, Hacettepe University, Mühendislik Fakültesi, Fizik Mühendisliği Bölümü, 2007 - 2020

Courses

Nanokarbon Teknolojileri, Postgraduate, 2020 - 2021

Published journal articles indexed by SCI, SSCI, and AHCI

- I. FeCoNiMnCr high-entropy alloys (HEAs): Synthesis, structural, magnetic and nuclear radiation absorption properties
ŞİMŞEK T., KAVAZ E., Güler Ö., Şimşek T., Avar B., Aslan N., Almisned G., Zakaly H. M., Tekin H.
Ceramics International, vol.49, no.15, pp.25364-25370, 2023 (SCI-Expanded)
- II. The effect of Cr and Nb addition on the structural, morphological, and magnetic properties of the mechanically alloyed high entropy FeCoNi alloys
Yakin A., ŞİMŞEK T., AVAR B., Chattopadhyay A. K., ÖZCAN Ş., Simsek T.
APPLIED PHYSICS A-MATERIALS SCIENCE & PROCESSING, vol.128, no.8, 2022 (SCI-Expanded)
- III. Experimental investigation of the effects of different quaternary elements (Ti, V, Nb, Ga, and Hf) on the thermal and magnetic properties of CuAlNi shape memory alloy
Ozkul I., Karaduman O., ŞİMŞEK T., Simsek T., AKSU CANBAY C., Ibrahim P. A., Arpa I. A. K.
JOURNAL OF MATERIALS RESEARCH, vol.37, no.14, pp.2271-2281, 2022 (SCI-Expanded)
- IV. Effect of Cu, Sn and Sb addition on the structural, thermal and magnetic properties of body-centered cubic structured CoNiMnGaSi high entropy alloy
ŞİMŞEK T., Ozkul I., AKSU CANBAY C., AVAR B., Simsek T., Guler S. H., ÖZCAN Ş., Guler O., Chattopadhyay A. K.
APPLIED PHYSICS A-MATERIALS SCIENCE & PROCESSING, vol.128, no.6, 2022 (SCI-Expanded)
- V. Synthesis and characterization of amorphous-nanocrystalline Fe₇₀Cr₁₀Nb₁₀B₁₀ powders by mechanical alloying
AVAR B., Chattopadhyay A. K., Simsek T., ŞİMŞEK T., ÖZCAN Ş., Kalkan B.
APPLIED PHYSICS A-MATERIALS SCIENCE & PROCESSING, vol.128, no.6, 2022 (SCI-Expanded)
- VI. A single step synthesis by mechanical alloying and characterization of nanostructured Fe₂B of high magnetic moment
ŞİMŞEK T., Avar B., Şimşek T., YILDIZ B., Chattopadhyay A. K., ÖZCAN Ş.
Ceramics International, vol.47, pp.26119-26124, 2021 (SCI-Expanded)
- VII. Solution combustion synthesis of new metal borophosphates (Fe_{1-x}Cr_x)(2)B (PO₄)₍₃₎: Structural, thermal, surface, and magnetic properties
ÖZER D., ŞİMŞEK T., ÖZCAN Ş., Oztas N. A.
CERAMICS INTERNATIONAL, vol.46, no.8, pp.12238-12242, 2020 (SCI-Expanded)
- VIII. Structure and magnetic properties of (La_{1-x}Fe_x)FeO₃(x=0, 0.25, 0.50) perovskite
Unlu C. G., Kaynar M. B., Şimşek T., Tekgul A., Kalkan B., Özcan Ş.
JOURNAL OF ALLOYS AND COMPOUNDS, vol.784, pp.1198-1204, 2019 (SCI-Expanded)
- IX. Influence of Crystal Size on the Magnetic Properties of Manganese Monoboride Nanoparticles
Şimşek T., Özcan Ş.
IEEE TRANSACTIONS ON MAGNETICS, vol.54, 2018 (SCI-Expanded)
- X. High purity synthesis of ZrB₂ by a combined ball milling and carbothermal method: Structural and magnetic properties
Baris M., Simsek T., Şimşek T., Özcan Ş., Kalkan B.
Advanced Powder Technology, vol.29, pp.2440-2446, 2018 (SCI-Expanded)
- XI. Phase transition of chemically synthesized FePt nanoparticles under high pressure
Şimşek T., Karci Ö., Özcan Ş.
TURKISH JOURNAL OF CHEMISTRY, vol.42, no.5, pp.1217-1223, 2018 (SCI-Expanded)
- XII. Magnetocaloric effect in La-0.7 Nd_xBa(0.3-x)MnO₃ (x=0, 0.05, 0.1) perovskite manganites
Unlu C. G., Tanis Y. E., KAYNAR M. B., ŞİMŞEK T., ÖZCAN Ş.
JOURNAL OF ALLOYS AND COMPOUNDS, vol.704, pp.58-63, 2017 (SCI-Expanded)
- XIII. Fabrication and Magnetic Properties of Mn (x) B₄₅Co_{100-x} Alloys
PIYAN C., ŞİMŞEK T., KAYNAR M. B., ÖZCAN Ş.

- JOURNAL OF SUPERCONDUCTIVITY AND NOVEL MAGNETISM, vol.29, no.8, pp.2203-2206, 2016 (SCI-Expanded)
- XIV. **Structural and Magnetic Properties of Mn_xB_{100-x} Alloys**
ŞİMŞEK T., ÖZCAN Ş.
IEEE TRANSACTIONS ON MAGNETICS, vol.51, no.7, 2015 (SCI-Expanded)
- XV. **Synthesis of MnFe₂O₄ nanocrystals by wet-milling under atmospheric conditions**
ŞİMŞEK T., AKANSEL S., ÖZCAN Ş., CEYLAN A.
CERAMICS INTERNATIONAL, vol.40, no.6, pp.7953-7956, 2014 (SCI-Expanded)
- XVI. **Journal of Magnetism and Magnetic Materials Volume 351, February 2014, Pages 47–51 Cover image Effective magnetic anisotropy enhancement of FePt nanocrystals through shape control**
ŞİMŞEK T.
JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS, vol.351, pp.47-51, 2014 (SCI-Expanded)
- XVII. **Effective magnetic anisotropy enhancement of FePt nanocrystals through shape control**
ŞİMŞEK T., ÖZCAN Ş.
JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS, vol.351, pp.47-51, 2014 (SCI-Expanded)
- XVIII. **Effect of hexane on magnetic blocking behavior of FePt nanoparticles**
ŞİMŞEK T., AKANSEL S., ÖZCAN Ş.
JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS, vol.324, no.22, pp.3924-3928, 2012 (SCI-Expanded)
- XIX. **Study of generalized magneto-optical ellipsometry measurement reliability**
Arregi J. A., Gonzalez-Diaz J. B., Bergaretxe E., Idigoras O., Ünsal T., Berger A.
JOURNAL OF APPLIED PHYSICS, vol.111, 2012 (SCI-Expanded)
- XX. **Pressure Dependence of Molar Volume near the Melting Point in Benzene**
YURTSEVEN H. H., Ünsal T.
Tsinghua Science and Technology, vol.12, no.5, pp.624-628, 2007 (SCI-Expanded)
- XXI. **Calculation of molar volume as a function of temperature close to the melting point in benzene**
YURTSEVEN H. H., Ünsal T.
HIGH TEMPERATURE MATERIALS AND PROCESSES, vol.26, pp.365-369, 2007 (SCI-Expanded)

Articles Published in Other Journals

- I. **A review of soft magnetic properties of mechanically alloyed amorphous and nanocrystalline powders**
Yakin A., Simsek T., Avar B., ŞİMŞEK T., Chattopadhyay A. K.
Emergent Materials, vol.6, no.2, pp.453-481, 2023 (Scopus)
- II. **Synthesis and characterization of Mn₂B nanocrystals by mechanical alloying method**
ŞİMŞEK T., ŞİMŞEK T., ÖZCAN Ş.
Journal of Boron, vol.4, no.1, pp.25-30, 2019 (Peer-Reviewed Journal)

Refereed Congress / Symposium Publications in Proceedings

- I. **Interfacial engineering of SOT-MRAM to modulate atomic diffusion and enable PMA stability > 400 degrees C**
Bi C., Lin S., Li X., Simsek T., Song M., Tsai W., Wang S. X.
International Symposium on VLSI Technology, Systems and Application (VLSI-TSA), Hsinchu, Taiwan, 22 - 25 April 2019
- II. **Interfacial control of W/CoFeB/MgO multilayers for high-density SOT-MRAM**
chong b., ShyJay L., ŞİMŞEK T., Li X., Tsai W., wang s. x.
64th International Electron Devices Conference, 1 - 05 December 2018
- III. **MnCoB nanoparticles for hyperthermia applications**
ŞİMŞEK T., PIYAN c., ÖZCAN Ş.

- 12th European Magnetic Sensors and Actuators Conference EMSA 2018, 1 - 04 July 2018
- IV. **Combustion Synthesis, Characterization and Magnetic Properties of FeCr_{2-x}B (PO₄)₃**
Özer D., Şimşek T., Özcan S., Altuntas Öztaş N.
6th International Conference on Superconductivity and Magnetism, Antalya, Turkey, 6 - 10 June 2018, pp.14-15
- V. **Combustion Synthesis, Characterization and Magnetic Properties of Fe_xCr_{2-x}B(PO₄)₃**
ÖZER D., ŞİMŞEK T., ÖZCAN S., ALTUNTAS OZTAS N.
6th International Conference on Superconductivity and Magnetism, 1 - 04 May 2018
- VI. **PREPARİNG La_{1-x}A_xB_{0.3} (A=Fe, Ba B=Fe, Mn) PEROVSKİTE NANOPARTİCLES BY SOL- GEL FOR MAGNETOCALORİC AND HYPERTHERMİA APPLICATIONS**
ÜNLÜ C. G., KAYNAR M. B., ŞİMŞEK T., TEKGÜL a.
International Conference on Applications in Chemistry and Chemical Engineering (ICACCHE), Sarajevo, Bosnia And Herzegovina, 11 - 15 October 2017
- VII. **Structural and Magnetic Properties of Exchange-Coupled MnBi/MnB Nanocomposite Magnets**
ŞİMŞEK T., ÖZCAN S.
Moscow International Symposium on Magnetism, 1 - 05 July 2017
- VIII. **Effect of Substitution Cobalt Atom in MnB alloy on Curie Temperature and Saturation Magnetization**
Piyan Ç., Şimşek T., Kaynar M. B., Özcan S.
9th International Conference on Magnetic and Superconducting Materials, Antalya, Turkey, 30 April - 03 May 2015, pp.26-27
- IX. **A Promising Soft Magnet: MnB**
ŞİMŞEK T., ÖZCAN S.
APMAS 2017 7th International Advances in Applied Physics and Materials Science Congress Exhibition, 22 - 26 April 2017
- X. **Fabrication and Magnetic Properties of Mn_{100-x}B₄₅Cu_x Bulk Alloys**
Yavuz İ., CEYLAN A., KAYNAR M. B., ŞİMŞEK T., ÖZCAN S.
32th Physics Congress Turkish Physics Society, 6 - 09 September 2016
- XI. **Fabrication and Magnetic Properties of Mn_{100-x}B₄₅Cu_x Bulk Alloys**
YAVUZ İ., KAYNAR M. B., ÜNSAL T., CEYLAN A., ÖZCAN S.
32th Physics Congress Turkish Physics Society, 6 - 09 September 2016
- XII. **DFT Calculations and Fabrication of MnB Nanoparticles**
Şimşek T., Özcan S.
Nanotr, Ankara, Turkey, 13 - 17 June 2015, pp.22-23
- XIII. **Investigation of magnetic properties of MnB Nanoparticles**
Şimşek T., Özcan S.
, 8 th International Conference on Fine Particle Magnetism, Perpignan, France, 1 - 06 June 2013, pp.125-126
- XIV. **Magnetic anomalies on relaxation behavior of superparamagnetic FePt nanoparticles**
Şimşek T., Akansel S., Özcan S.
XI. International Conference on Nanostructured Materials, Rodos, Greece, 8 - 12 August 2012, pp.22-23
- XV. **Shape dependency of magnetic properties in FePt nanocrystals**
Şimşek T., Özcan S.
8th Nanoscience – Nanotechnology Congress, Nanotr VIII, Ankara, Turkey, 4 - 08 June 2012, pp.22
- XVI. **Synthesis of manganese ferrite nanocrystals under air atmosphere by high energy ball milling**
Akansel S., Şimşek T., Özcan S.
Synthesis of manganese ferrite nanocrystals under air atmosphere by high energy ball milling, Ankara, Turkey, 4 - 08 June 2012, pp.22-23
- XVII. **Size and shape control on FePt nanoparticles**
Akansel S., Şimşek T., Özcan S.
, 28th International Physics Congress, Turkish Physical Society, Muğla, Turkey, 5 - 09 September 2011, pp.22-34
- XVIII. **Synthesis of cubic shaped FePt nanoparticles and investigation of structural phase transitions**
Şimşek T., Özcan S., Fırat T.
15. Condensed Matter Physics Ankara Meeting, Ankara, Turkey, 13 - 14 November 2008, pp.25-26

XIX. **Synthesis and characterization of chemically synthesized magnetic FePt nanoparticles,**
Şimşek T.
25th International Physics Congress, Turkish Physical Society, Muğla, Turkey, 4 - 08 August 2008, pp.56-57

Supported Projects

ÖZCAN Ş., KAYNAR M. B., ŞİMŞEK T., Project Supported by Higher Education Institutions, Manyetik Alanla Sürülebilen Temassız Nanojeneratör Üretimi ve Özelliklerinin Araştırılması (TÜBİTAK 119M066 Nolu Proje Ek Bütçe), 2022 - Continues
Şimşek T., Yıldız B., Bayram C., TUBITAK Project, Yüksek Isıtma Verimine Sahip Oto-Kontrol Manyetik Hipertermi Özellikli Manyetik Nanomalzemelerin Sentezi Ve Karakterizasyonu, 2023 - 2026
Yıldız B., Şimşek T., Şimşek T., Güler Ö., TUBITAK Project, Fotokatalizör Olarak Yüksek Defektli Yüksek Entropili Alaşım Oksitlerinin Üretimi Ve CO₂ Dönüşürücü Olarak Kullanımında Nadir Toprak Element Katkısının Araştırılması, 2023 - 2025
ŞİMŞEK T., ÖZCAN Ş., Keleş M., Project Supported by Higher Education Institutions, Birinci dereceden faz geçişine sahip LaFeSiH nanoparçacıklarının otokontrol hipertermi uygulamalarının araştırılması, 2021 - 2024
BACIOĞLU A., HÖKELEK T., KAYNAR M. B., ŞİMŞEK T., Project Supported by Higher Education Institutions, Fiziksel Özellikler Ölçüm Sistemi Dış Ünite Değişimi, 2022 - 2023
Özcan Ş., Kaynar M. B., Şimşek T., TUBITAK Project, Manyetik Alanla Sürülebilen Temassız Nano-Jeneratör Üretimi Ve Özelliklerinin Araştırılması, 2019 - 2023
CEYLAN A., ÖZCAN Ş., ŞİMŞEK T., Project Supported by Higher Education Institutions, Eş-zamanlı sputter teknigi ile CZS ince filmlerin sentezi ve fiziksel özelliklerinin araştırılması, 2018 - 2023
ÖZCAN Ş., ŞİMŞEK T., KAYNAR M. B., CEYLAN A., Project Supported by Higher Education Institutions, FeB Nanoparçacıkların Üretilmesi Olası Kanser Tedavisi Uygulamalarının Araştırılması, 2019 - 2022
ÖZCAN Ş., CEYLAN A., ŞİMŞEK T., KAYNAR M. B., Project Supported by Higher Education Institutions, Magnetron Sputter Tekniği ile MnB İnce Filmlerinin Hazırlanması ve Özelliklerinin Araştırılması, 2018 - 2022
KAYNAR M. B., ÖZCAN Ş., CEYLAN A., ŞİMŞEK T., Project Supported by Higher Education Institutions, Kobalt-Ferrit Tabanlı Kompozit Filmlerde Çinko Katkısının Ferromanyetik Rezonans (FMR) Frekanına Etkisi ve Olası Spintronik Uygulamalarının İrdelenmesi, 2018 - 2020
ŞİMŞEK T., ÖZCAN Ş., KAYNAR M. B., Project Supported by Higher Education Institutions, Islak Öğütme Tekniği ile Mangan Çinko Spinel Ferit Nanoparçacıkların Üretilmesi, 2018 - 2019
ŞİMŞEK T., ÖZCAN Ş., Project Supported by Higher Education Institutions, DEĞİŞTOKUŞ ETKILEŞİMİ ÇİFTLENİMLİ MnBiMnB NANOKOMPOZİT MIKNATISLARIN YAPISAL VE MANYETİK ÖZELLİKLERİ, 2017 - 2017
ŞİMŞEK T., ÖZCAN Ş., Project Supported by Higher Education Institutions, Değiştokuş etkileşimli MnB/CoPt nanokompozitlerin üretilmesi, 2016 - 2017
Özcan Ş., TUBITAK Project, MnB Nanoparçacıkların Sentezi ve Manyetik Özelliklerinin Araştırılması, 2013 - 2016
ÖZCAN Ş., ŞİMŞEK T., Project Supported by Higher Education Institutions, Değiş-Tokuş Etkileşimi Çiftlenimli Nanomıknatısların Manyetik Özelliklerinin İncelenmesi, 2015 - 2015

Metrics

Publication: 44
Citation (WoS): 86
Citation (Scopus): 114
H-Index (WoS): 5
H-Index (Scopus): 7

Congress and Symposium Activities

7th International Advances in Applied Physics and Materials Science Congress & Exhibition, Invited Speaker, Muğla, Turkey, 2017

22. Yoğun Madde Fiziği Ankara Toplantısı, Invited Speaker, Ankara, Turkey, 2016

International Conference on Small Science, Invited Speaker, Florida, United States Of America, 2012

Invited Talks

", 7th International Advances in Applied Physics and Materials Science Congress, Conference, ", 7th International Advances in Applied Physics and Materials Science Congress, Turkey, April 2017

22. Yoğun Madde Fiziği Ankara Toplantısı, Conference, Ankara Üniversitesi, Turkey, December 2016

Nanoscopic Analyses on Industrial Materials, Workshop, Hacettepe Üniversitesi, Turkey, November 2015

International Conference on Small Science, Conference, Diğer Kurumlar, United States Of America, December 2012

Scholarships

ERASMUS TRAINING , European Commission, 2010 - 2010

Awards

Şimşek T., Fulbright Postdoctoral Scholar Award, Fulbright, September 2018

Non Academic Experience

Stanford Üniversitesi

CIC Nanogune