

Asst. Prof. TELEM ŞİMŞEK

Personal Information

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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, Secondary Science And Mathematics Education, Turkey 2003 - 2006

Foreign Languages

English, C1 Advanced

Dissertations

Doctorate, Değiş-tokuş etkileşimi çiftlenimli nanomknatsların 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 Nanotıp A.B.D., 2020 - Continues

Research Assistant, Hacettepe University, Mühendislik Fakültesi, Fizik Mühendisliği Bölümü, 2007 - 2020

Courses

Nanokarbon Teknolojileri, Postgraduate, 2020 - 2021

FİZİK, Undergraduate, 2016 - 2017

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

- I. **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 (Journal Indexed in SCI)
- II. **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 (Journal Indexed in SCI)
- III. **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 (Journal Indexed in SCI)
- IV. **Influence of Crystal Size on the Magnetic Properties of Manganese Monoboride Nanoparticles**
Şimşek T., Özcan Ş.
IEEE TRANSACTIONS ON MAGNETICS, vol.54, 2018 (Journal Indexed in SCI)
- V. **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 (Journal Indexed in SCI)
- VI. **Phase transition of chemically synthesized FePt nanoparticles under high pressure**
Şimşek T., Karçı Ö., Özcan Ş.
TURKISH JOURNAL OF CHEMISTRY, vol.42, no.5, pp.1217-1223, 2018 (Journal Indexed in SCI)
- VII. **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 (Journal Indexed in SCI)
- VIII. **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 (Journal Indexed in SCI)
- IX. **Structural and Magnetic Properties of Mn_xB_{100-x} Alloys**
ŞİMŞEK T., ÖZCAN Ş.
IEEE TRANSACTIONS ON MAGNETICS, vol.51, no.7, 2015 (Journal Indexed in SCI)
- X. **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 (Journal Indexed in SCI)
- XI. **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 (Journal Indexed in SCI)
- XII. **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 (Journal Indexed in SCI)
- XIII. **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 (Journal Indexed in SCI)
- XIV. **Study of generalized magneto-optical ellipsometry measurement reliability**
Arregi J. A. , Gonzalez-Diaz J. B. , Bergaretxe E., Idigoras O., Unsal T., Berger A.
JOURNAL OF APPLIED PHYSICS, vol.111, 2012 (Journal Indexed in SCI)
- XV. **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 (Journal Indexed in SCI Expanded)

- XVI. **Calculation of molar volume as a function of temperature close to the melting point in benzene**
YURTSEVEN H. H. , Uensal T.
HIGH TEMPERATURE MATERIALS AND PROCESSES, vol.26, pp.365-369, 2007 (Journal Indexed in SCI)

Articles Published in Other Journals

- I. **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 (Other Refereed National Journals)

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 Ş., Altuntaş 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 Ş., ALTUNTAS OZTAS N.
6th International Conference on Superconductivity and Magnetism, 1 - 04 May 2018
- VI. **PREPARİNG La_{1-x}A_xBO₃ (A=Fe, Ba B=Fe, Mn) PEROVSKİTENANOPARTİCLES BY SOL- GEL FOR MAGNETOCALORİC ANDHYPERTHERMİA APPLİCATIONS**
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 Ş.
Moscow International Symposium on Magnetism, 1 - 05 July 2017
- VIII. **Effect of Substitution Cobalt Atom in MnB alloy on Curie Temperature and Saturation Magnetization**
Piyar Ç., Şimşek T., Kaynar M. B. , Özcan Ş.
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 Ş.
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}B₄₅C_x Bulk Alloys**
Yavuz İ., CEYLAN A., KAYNAR M. B. , ŞİMŞEK T., ÖZCAN Ş.
32th Physics Congress Turkish Physics Society, 6 - 09 September 2016
- XI. **Fabrication and Magnetic Properties of Mn_{100-x}B₄₅C_x Bulk Alloys**

YAVUZ İ., KAYNAR M. B. , ÜNSAL T., CEYLAN A., ÖZCAN Ş.

32th Physics Congress Turkish Physics Society, 6 - 09 September 2016

XII. DFT Calculations and Fabrication of MnB Nanoparticles

Şimşek T., Özcan Ş.

Nanotr, Ankara, Turkey, 13 - 17 June 2015, pp.22-23

XIII. Investigation of magnetic properties of MnB Nanoparticles

Şimşek T., Özcan Ş.

”, 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 Ş.

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 Ş.

8th Nanoscience – Nanotechnology Congress, Nanotr VIII, Ankara, Turkey, 4 - 08 June 2012, pp.22

XVI. Synthesis of manganese ferriite nanocrystals under air atmosphere by high energy ball milling

Akansel S., Şimşek T., Özcan Ş.

Synthesis of manganese ferriite 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 Ş.

, 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 Ş., 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., ŞİMŞEK T., KAYNAR M. B. , CEYLAN A., Project Supported by Higher Education Institutions, FeB Nanoparçacıkların Üretilmesi Olası Kanser Tedavisi Uygulamalarının Araştırılması, 2019 - Continues

CEYLAN A., ÖZCAN Ş., ŞİMŞEK T., Project Supported by Higher Education Institutions, Eş-zamanlı sputter tekniği ile CZS ince filmlerin sentezi ve fiziksel özelliklerinin araştırılması, 2018 - Continues

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 - Continues

KAYNAR M. B. , ÖZCAN Ş., CEYLAN A., ŞİMŞEK T., Project Supported by Higher Education Institutions, Kobalt-Ferit 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 ETKİLEŞİMİ ÇİFTLENİMLİ MnBiMnB NANOKOMPOZİT MIKNATISLARIN YAPISAL VE MANYETİK ÖZELLİKLERİ, 2017 - 2017

ŞİMŞEK T., ÖZCAN Ş., Project Supported by Higher Education Institutions, Değiş tokuş 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 Nanomiknatısların Manyetik Özelliklerinin İncelenmesi, 2015 - 2015

Edit 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

Citations

Total Citations (WOS):81

h-index (WOS):5

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

Nanoscope 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