

Prof. EYÜP DUMAN



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International Researcher IDs

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Education Information

Doctorate, Universitaet Duisburg Essen, Fizik Bölümü, Germany 2001 - 2006

Postgraduate, Ankara University, Fen Bilimleri Enstitüsü, Fizik Mühendisliği (YI) (Tezli), Turkey 1997 - 1999

Undergraduate, Ankara University, Mühendislik Fakültesi, Fizik Mühendisliği Bölümü, Turkey 1993 - 1997

Foreign Languages

German, C1 Advanced

English, B2 Upper Intermediate

Dissertations

Doctorate, Druckabhaengigkeit der Invar Typischen Instabilitaeten von Fe₃C (Zementit) Nanopartikeln, Universitaet Duisburg Essen, Fizik Bölümü, 2006

Postgraduate, (Cu₂L) (L=N-2-hidroksi-4-metilfenil-4-oxo-2-pentalketimine) kompleksinin kristal yapısının ve magnetik özelliklerinin incelenmesi, Ankara University, Fen Bilimleri Enstitüsü, Fizik Mühendisliği (YI) (Tezli), 1999

Research Areas

Intensive Article 2: Electronic Structure, Electric, Magnetic and Optical Properties, Magnetic Properties and Materials

Academic Titles / Tasks

Professor, Ankara University, Mühendislik Fakültesi, Enerji Mühendisliği Bölümü, 2022 - Continues

Associate Professor, Ankara University, Mühendislik Fakültesi, Enerji Mühendisliği Bölümü, 2015 - 2022

Associate Professor, Ankara University, Mühendislik Fakültesi, Fizik Mühendisliği Bölümü, 2013 - 2015

Assistant Professor, Ankara University, Mühendislik Fakültesi, Fizik Mühendisliği Bölümü, 2010 - 2013

Lecturer PhD, Heinrich Heine Universitaet Düsseldorf, Physik, Fachbereich Physik, 2006 - 2008

Research Assistant, Universitaet Duisburg Essen, Physik, Fachbereich Physik, 2001 - 2006

Academic and Administrative Experience

Director of the Center, Ankara University, Rektörlük, Süperiletken Teknolojileri Uyg. ve Arş.Merk., 2015 - 2017

Deputy Head of Department, Ankara University, Mühendislik Fakültesi, Fizik Mühendisliği Bölümü, 2011 - 2013

Courses

Fizik 1, Undergraduate, 2022 - 2023, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2017 - 2018, 2016 - 2017, 2014 - 2015, 2013 - 2014

Measurements and Instrumentation, Undergraduate, 2022 - 2023, 2021 - 2022, 2020 - 2021, 2019 - 2020

Physics II, Undergraduate, 2022 - 2023

Electrical and Magnetic Properties of Materials, Undergraduate, 2021 - 2022, 2020 - 2021, 2019 - 2020

Advising Theses

DUMAN E., YAĞLIOĞLU H. G., Zaman çözünürlüklü manyeto-optik kerr etkisi deney düzeneğinin kurulması ve manyetik ince filmlerin manyeto optik dinamiklerinin incelenmesi, Postgraduate, Z.TABAK(Student), 2019

DUMAN E., Magnetic and microstructure properties of Cu₂MnAl melt-spun ribbons, Postgraduate, Ç.BEŞE(Student), 2017

DUMAN E., Farklı ısıtma işlem uygulamalarının $0 < x < 0.15$ alaşımlarının yapısal, manyetik ve manyetokalorik özellikleri üzerine etkisi, Postgraduate, O.TÖZKOPARAN(Student), 2012

DUMAN E., Co_{1-x}TxMnSb (T= Cu, Cr) alaşımlarının manyetokalorik özelliklerinin deneysel ve teorik incelenmesi, Postgraduate, C.MUTLUCA(Student), 2012

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **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)
- II. **Experimental observation of transition from type I to type II ultrafast demagnetization dynamics in chemically disordered Fe₆₀Al₄₀ thin film, driven by laser fluence**
ARSLAN M., BEŞE Ç., Tabak Z., Bozdag T., DUMAN E., YAĞLIOĞLU H. G.
Journal of Applied Physics, vol.131, no.9, 2022 (SCI-Expanded)
- III. **Magnetocaloric effect of ball-milled CoMn_{0.95}V_{0.05}Ge nano-powders**
Yildirim O., YÜZÜAK E., Tozkoparan O., Dincer I., DUMAN E.
JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS, vol.519, 2021 (SCI-Expanded)
- IV. **Magnetostructural transition in Co-Mn-Ge systems tuned by valence electron concentration**
Tozkoparan O., Yildirim O., YÜZÜAK E., Duman E., Dincer I.
Journal of Alloys and Compounds, vol.791, pp.208-214, 2019 (SCI-Expanded)
- V. **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)
- VI. **Metamagnetic Transitions in La_{0.5}Pr_{0.5}Mn₂Si₂**

DUMAN E., Acet M., Krenke T., Ouladdiaf B., Suard E.

METALLURGICAL AND MATERIALS TRANSACTIONS A-PHYSICAL METALLURGY AND MATERIALS SCIENCE, vol.48A, no.3, pp.1512-1517, 2017 (SCI-Expanded)

- VII. **Thermal and magnetothermal properties of $\text{La}_{0.5}\text{Pr}_{0.5}\text{Mn}_2\text{Si}_2$**
Emre B., Dincer I., DUMAN E., Elerman Y.
Solid State Communications, vol.151, no.24, pp.2004-2007, 2011 (SCI-Expanded)
- VIII. **Hysteresis effects in the magnetic-field-induced reverse martensitic transition in magnetic shape-memory alloys**
Krenke T., Aksoy Esinoğlu S., DUMAN E., Acet M., Moya X., Manosa L., Planes A.
JOURNAL OF APPLIED PHYSICS, vol.108, no.4, 2010 (SCI-Expanded)
- IX. **Inverse and conventional magnetic entropy change in $\text{La}_{0.8}\text{Sm}_{0.2}\text{Mn}_2\text{Si}_2$ and $\text{La}_{0.775}\text{Gd}_{0.225}\text{Mn}_2\text{Si}_2$ compounds**
Emre B., Dincer I., Elerman Y., Duman E.
Physica Scripta, vol.80, no.5, 2009 (SCI-Expanded)
- X. **Antiferromagnetic-ferromagnetic crossover in $\text{La}_{0.5}\text{Pr}_{0.5}\text{Mn}_2\text{Si}_2$ 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)
- XI. **Magnetic properties of the $\text{HoMn}_6\text{-xFe}_x\text{Sn}_6$ compounds**
Cakir O., Dincer I., Duman E., Krenke T., Elmali A., Elerman Y.
Journal of Alloys and Compounds, vol.441, no.1-2, pp.19-22, 2007 (SCI-Expanded)
- XII. **Effect of Co and Fe on the inverse magnetocaloric properties of Ni-Mn-Sn**
Krenke T., DUMAN E., Acet M., Moya X., Manosa L., Planes A.
JOURNAL OF APPLIED PHYSICS, vol.102, no.3, 2007 (SCI-Expanded)
- XIII. **The influence of substitution of Co for Mn on magnetism of the $\text{HoMn}_6\text{-xCoxSn}_6$ compounds ($0 \leq x \leq 0.25$)**
Dincer I., Elerman Y., Duman E., Elmali A., Ehrenberg H., Fuess H.
Journal of Magnetism and Magnetic Materials, vol.313, no.1, pp.204-209, 2007 (SCI-Expanded)
- XIV. **Magnetic superelasticity and inverse magnetocaloric effect in Ni-Mn-In**
Krenke T., Duman E., Acet M., Wassermann E. F., Moya X., Manosa L., Planes A., Suard E., Ouladdiaf B.
Physical Review B - Condensed Matter and Materials Physics, vol.75, no.10, 2007 (SCI-Expanded)
- XV. **Competing magnetic interactions in rare-earth manganese silicides and germanides**
Duman E., Acet M., Dincer I., Elmali A., Elerman Y.
Journal of Magnetism and Magnetic Materials, vol.309, no.1, pp.40-53, 2007 (SCI-Expanded)
- XVI. **Calorimetric study of the inverse magnetocaloric effect in ferromagnetic Ni-Mn-Sn**
Moya X., Manosa L., Planes A., Krenke T., Duman E., Acet M., Wassermann E. F.
Journal of Magnetism and Magnetic Materials, vol.316, no.2 SPEC. ISS., 2007 (SCI-Expanded)
- XVII. **FePt nanocrystals embedded in methylmethacrylate polymers**
Saigueirino-Maceira V., Correa-Duarte M., Duman E., Farle M.
JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS, vol.299, no.2, pp.467-471, 2006 (SCI-Expanded)
- XVIII. **Investigation of magnetic ordering in $\text{ErCo}_{10}\text{Mo}_2\text{-xSix}$ compounds**
Elmali A., Yucel A., Duman E., Ozdemir Z., Elerman Y.
JOURNAL OF ALLOYS AND COMPOUNDS, vol.402, no.1-2, pp.25-29, 2005 (SCI-Expanded)
- XIX. **Magnetic characteristics of $\text{ErCo}_{10}\text{Mo}_2\text{-xVx}$ family of compounds**
Elmali A., Yucel A., Duman E., Elerman Y.
JOURNAL OF ALLOYS AND COMPOUNDS, vol.402, no.1-2, pp.1-4, 2005 (SCI-Expanded)
- XX. **Magnetic study of intermetallic $\text{Ce}_{1-x}\text{Tb}_x\text{Mn}_2\text{Ge}_2$ ($0 \leq x \leq 1$) compounds**
ÇAKIR O., DİNÇER İ., ELMALI A., DUMAN E., Elerman Y.
Journal of Magnetism and Magnetic Materials, vol.295, no.3, pp.235-240, 2005 (SCI-Expanded)
- XXI. **Inverse magnetocaloric effect in ferromagnetic Ni-Mn-Sn alloys**
Krenke T., Duman E., Acet M., Wassermann E., Moya X., Manosa L., Planes A.

NATURE MATERIALS, vol.4, no.6, pp.450-454, 2005 (SCI-Expanded)

- XXII. **Magnetic instabilities in Fe₃C cementite particles observed with FeK-edge X-ray circular dichroism under pressure**
Duman E., Acet M., Wassermann E., Itie J., Baudalet F., Mathon O., Pascarelli S.
PHYSICAL REVIEW LETTERS, vol.94, no.7, 2005 (SCI-Expanded)
- XXIII. **Ferrimagnetism of Dy(Mn_{1-x}Cox)(6)Sn-6**
Sagiroglu E., Duman E., Elerman Y., Acet M.
JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS, vol.284, pp.120-127, 2004 (SCI-Expanded)
- XXIV. **Large spontaneous magnetostrictive softening below the Curie temperature of Fe₃C Invar particles**
Duman E., Acet M., Hulser T., Wassermann E., Rellinghaus B., Itie J., Munsch P.
JOURNAL OF APPLIED PHYSICS, vol.96, no.10, pp.5668-5672, 2004 (SCI-Expanded)
- XXV. **Universal behavior of magnetic-phase transitions in the Mn sublattice of La_xR_{1-x}Mn₂Si₂ (R : rare earth) compounds**
Duman E., Acet M., Dincer I., Elerman Y., Elmali A.
JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS, vol.272, pp.529-530, 2004 (SCI-Expanded)
- XXVI. **Magnetic interactions and spin configuration in FeRh and Fe/FeRh systems**
Kuncser V., Keune W., Sahoo B., Duman E., Acet M., Radu F., Valeanu M., Crisan O., Filoti G.
JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS, vol.272, pp.348-350, 2004 (SCI-Expanded)
- XXVII. **Magnetic shape memory in Ni-Mn-Ga and Ni-Mn-Al**
Manosa L., Planes A., Acet M., Duman E., Wassermann E.
JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS, vol.272, pp.2090-2092, 2004 (SCI-Expanded)
- XXVIII. **Magnetic properties of Pr_{1-x}GdxMn₂Ge₂**
Elerman Y., DİNÇER İ., ELMALI A., Ehrenberg H., Fuess H., DUMAN E., Acet M.
Journal of Physics Condensed Matter, vol.16, no.3, pp.405-414, 2004 (SCI-Expanded)
- XXIX. **Criticality in Cu-Al-Mn hysteresis loops**
Marcos J., Vives E., Manosa L., Planes A., Duman E., Acet M.
Journal of Magnetism and Magnetic Materials, vol.272-276, no.SUPPL. 1, 2004 (SCI-Expanded)
- XXX. **Thermal variation of magnetotransport properties of Co/Cu magnetic multilayers**
Sakai T., Oomi G., Duman E., Acet M., Saito K., Takanashi K.
Journal of Magnetism and Magnetic Materials, vol.272-276, no.SUPPL. 1, 2004 (SCI-Expanded)
- XXXI. **Disorder-induced critical phenomena in magnetically glassy Cu-Al-Mn alloys**
Marcos J., Vives E., Manosa L., Acet M., DUMAN E., Morin M., Novak V., Planes A.
PHYSICAL REVIEW B, vol.67, no.22, 2003 (SCI-Expanded)
- XXXII. **Magnetic properties and martensitic transition in annealed Ni₅₀Mn₃₀Al₂₀**
Manosa L., Planes A., Acet M., Duman E., Wassermann E.
JOURNAL OF APPLIED PHYSICS, vol.93, no.10, pp.8498-8500, 2003 (SCI-Expanded)
- XXXIII. **Magnetic transitions in Nd_{1-x}DyxMn₂Ge₂**
Elerman Y., Kervan S., Duman E., Acet M.
JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS, vol.251, no.3, pp.251-259, 2002 (SCI-Expanded)
- XXXIV. **Mossbauer effect study of the Fe spin structure in exchange-bias and exchange-spring systems**
Keune W., Kuncser V., Doi M., Askin M., Spies H., Sahoo B., Duman E., Acet M., Jiang J., Inomata A., et al.
JOURNAL OF PHYSICS D-APPLIED PHYSICS, vol.35, no.19, pp.2352-2358, 2002 (SCI-Expanded)
- XXXV. **Coexisting ferro- and antiferromagnetism in Ni₂MnAl Heusler alloys**
Acet M., Duman E., Wassermann E., Manosa L., Planes A.
JOURNAL OF APPLIED PHYSICS, vol.92, no.7, pp.3867-3871, 2002 (SCI-Expanded)
- XXXVI. **Magnetic phase transitions in PrMn_{2-x}Cr_xGe₂**
Dincer I., Elerman Y., Elmali A., Ehrenberg H., Fuess H., Duman E., Acet M.
JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS, vol.248, no.2, pp.268-275, 2002 (SCI-Expanded)
- XXXVII. **Magnetic interactions in Pr_{1-x}TbxMn₂Ge₂**
Duman E., Acet M., Elerman Y., Elmali A., Wassermann E.
JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS, vol.238, no.1, pp.11-21, 2002 (SCI-Expanded)

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 (EURASIAN SCIENTECH 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

Supported Projects

Yağlıoğlu H. G., Duman E., TUBITAK Project, Grafen/Ferrimagnet Arayüzeylerinde Femtosaniye Lazer Etkisi ile Oluşturulan Spin Dinamiklerinin Ultrahızlı Optik Yöntemlerle Araştırılması, 2023 - 2026

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

Yağlıoğlu H. G., Duman E., Çıldıroğlu H. Ö., TUBITAK Project, Creating NV- Color Centers in Diamond by LASER Writing Method, 2022 - 2023

Duman E., Köysüren Ö., Soysal K., Yağlıkçı S., TUBITAK Project, Elektronik Atıkların Geri Dönüşümünden Elde Edilen Mıknatıs Tozları Kullanılarak Eklemeli Üretim Yöntemi ile Kalıcı Mıknatıs Üretimi, 2021 - 2022

Duman E., Yağlıoğlu H. G., TUBITAK Project, Investigating ultrafast magnetization / demagnetization dynamics of FeAl thin films, 2017 - 2021

Tutar M., Semerci N. I., Duman E., Köysüren Ö., Project Supported by Higher Education Institutions, Küçük Ölçekli Dikey Eksenli Rüzgar Türbinlerinin Düşük Rüzgar Hızlarındaki Enerji Çevrim Veriminin ve Aerodinamik Performansının Uygulamalı Hesaplamalı Mühendislik (UHM) Yöntemleri Kullanılarak İyileştirilmesi, 2017 - 2019

DUMAN E., TUBITAK Project, Heusler Tabanlı Yeni Manyetik Şekil Hafıza Alaşımlarının Eldesi Ve Bunların Manyetik Ve Yapısal Özelliklerinin İncelenmesi, 2011 - 2013

DUMAN E., Project Supported by Higher Education Institutions, Öğrenci Odaklı BAP Projesi, 2011 - 2012

Patent

DUMAN E., METODO PARA LA PRODUCCION DE UN PRODUCTO DE ACERO PLANO DE GRANO ORIENTADO, Patent, CHAPTER C Chemistry; Metallurgy, 2019

DUMAN E., VERFAHREN ZUM ERZEUGEN EINES KORNIORIENTIERTEN STAHLFLACHPRODUKTS, Patent, CHAPTER C Chemistry; Metallurgy, 2019

DUMAN E., Método para produzir um produto de aço plano de grão-orientado, Patent, CHAPTER H Electricity, 2018

DUMAN E., СПОСОБ ИЗГОТОВЛЕНИЯ ТЕКСТУРИРОВАННОГО ЛИСТОВОГО СТАЛЬНОГО ИЗДЕЛИЯ, Patent, CHAPTER C Chemistry; Metallurgy, 2015

DUMAN E., Method for Producing a Grain-Oriented Flat Steel Product, Patent, CHAPTER C Chemistry; Metallurgy, 2015

Metrics

Publication: 39
Citation (WoS): 3005
Citation (Scopus): 2952
H-Index (WoS): 14

H-Index (Scopus): 14

Scholarships

Investigation of magnetic and structural properties of RMnGe alloys, Official Institutions of Foreign Countries, 2000 - 2001

Non Academic Experience

ThyssenKrupp Electrical Steel

Business Organization (private), ThyssenKrupp Electrical Steel, Research and Development