

Assoc. Prof. CANER DEĞER

Personal Information

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International Researcher IDs

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Education Information

Post Doctorate, University of California, Los Angeles, Chemistry and Biochemistry Dept., United States Of America 2021 - 2022

Doctorate, Marmara University, Institute for Graduate Studies in Pure and Applied Sciences, Department of Physics, Turkey 2015 - 2019

Postgraduate, Marmara University, Institute for Graduate Studies in Pure and Applied Sciences, Fizik (YI) (Tezli) (İngilizce), Turkey 2013 - 2015

Undergraduate, Gebze Technical University, Faculty Of Basic Sciences, Department Of Physics, Turkey 2007 - 2012

Foreign Languages

English, C2 Mastery

Dissertations

Doctorate, Current-driven generation and stabilization of magnetic skyrmions, Marmara University, Institute for Graduate Studies in Pure and Applied Sciences, 2019

Postgraduate, Modeling and Applications of Magnetostatic Spin Wave Resonance, Marmara Üniversitesi, Institute for Graduate Studies in Pure and Applied Sciences, Fizik (YI) (Tezli) (İngilizce), 2015

Research Areas

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

Academic Titles / Tasks

Associate Professor, Marmara University, Faculty of Arts and Sciences, Physics, 2021 - Continues

Assistant Professor, Marmara University, Faculty of Arts and Sciences, Physics, 2020 - 2021

Research Assistant, Marmara University, Faculty of Arts and Sciences, Physics, 2013 - 2020

Courses

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Rational design of spacer cations toward efficient and stable 2D/3D heterostructure perovskite solar cells**
DEĞER C.
Chemical Physics Letters, vol.858, 2025 (SCI-Expanded)
- II. **Micro-homogeneity of lateral energy landscapes governs the performance in perovskite solar cells**
Shi P., Ding B., Jin D., Oner M., Zhang X., Tian Y., Li Y., Zhao K., Sun Z., Xu J., et al.
Nature Communications, vol.15, no.1, 2024 (SCI-Expanded)
- III. **Sublimed C60 for efficient and repeatable perovskite-based solar cells**
Said A. A., Aydin E., Ugur E., Xu Z., DEĞER C., Vishal B., Vlk A., Dally P., Yildirim B. K., Azmi R., et al.
Nature Communications, vol.15, no.1, 2024 (SCI-Expanded)
- IV. **Mitigating Buried-Interface Energy Losses through Multifunctional Ligands in n-i-p Perovskite/Silicon Tandem Solar Cells**
Zhang S., Wang J., Kalasariya N., Dally P., DEĞER C., YAVUZ İ., Razzaq A., Vishal B., Prasetio A., Utomo D. S., et al.
ACS Energy Letters, vol.9, no.9, pp.4633-4644, 2024 (SCI-Expanded)
- V. **peri-Fused polyaromatic molecular contacts for perovskite solar cells**
Zhao K., Liu Q., Yao L., DEĞER C., Shen J., Zhang X., Shi P., Tian Y., Luo Y., Xu J., et al.
Nature, vol.632, no.8024, pp.301-306, 2024 (SCI-Expanded)
- VI. **Ferroelastic Control of the Multicolor Emission from a Triply Doped Organic Crystal**
Commings P., Al-Handawi M. B., DEĞER C., Polavaram S., YAVUZ İ., Rezgui R., Li L., Houk K., Naumov P.
Journal of the American Chemical Society, vol.146, no.24, pp.16540-16548, 2024 (SCI-Expanded)
- VII. **Oscillatory behavior of interlayer Dzyaloshinskii-Moriya interaction by spacer thickness variation**
Demiroglu E., Hancioglu K., YAVUZ İ., Avci C., DEĞER C.
Physical Review B, vol.109, no.14, 2024 (SCI-Expanded)
- VIII. **Ion-Migration Inhibitor for Spiro-OMeTAD/Perovskite Contact toward Stable Perovskite Solar Cells**
Xu J., Shi P., Zhao K., Yao L., DEĞER C., Wang S., Zhang X., Zhang S., Tian Y., Wang X., et al.
ACS Energy Letters, vol.9, no.3, pp.1073-1081, 2024 (SCI-Expanded)
- IX. **Incorporation Mechanism of Potassium in FAPbI₃ Perovskite Solar Cell Materials**
ALEVLİ M., Gungor N., KAVAK P., ŞAHİN N., Corcoran A., Topal I., ESMER K., ÇAKMAKÇI E., DEĞER C., YAVUZ İ.
Journal of Physical Chemistry C, vol.128, no.7, pp.2759-2766, 2024 (SCI-Expanded)
- X. **Magnetic-biased chiral molecules enabling highly oriented photovoltaic perovskites**
Chen J., DEĞER C., Su Z., Wang K., Zhu G., Wu J., He B., Chen C., Wang T., Gao X., et al.
National Science Review, vol.11, no.2, 2024 (SCI-Expanded)
- XI. **Methylthio Substituent in SAM Constructing Regulatory Bridge with Photovoltaic Perovskites**
Chen C., Liu G., Chen X., DEĞER C., Jin R., Wang K., Chen J., Xia Y., Huang L., YAVUZ İ., et al.
Angewandte Chemie - International Edition, 2024 (SCI-Expanded)
- XII. **Resolving Scaling Issues in Self-Assembled Monolayer-Based Perovskite Solar Modules via Additive Engineering**
Pininti A. R., Subbiah A. S., DEĞER C., YAVUZ İ., Prasetio A., Dally P., Hnapovskiy V., Said A. A., Torres Merino L. V., Mannar S., et al.
Advanced Energy Materials, 2024 (SCI-Expanded)
- XIII. **Tailoring the π -conjugation in self-assembled hole-selective molecules for perovskite photovoltaics**
Zhao K., Yao L., Liu C., YAVUZ İ., Shen J., Shi P., Zhang X., Luo Y., Jin D., Tian Y., et al.
Science China Materials, 2024 (SCI-Expanded)
- XIV. **Achieving sustainability of greenhouses by integrating stable semi-transparent organic photovoltaics**
Zhao Y., Li Z., DEĞER C., Wang M., Peric M., Yin Y., Meng D., Yang W., Wang X., Xing Q., et al.

- Nature Sustainability, vol.6, no.5, pp.539-548, 2023 (SCI-Expanded)
- XV. **Defect Pair Formation in FAPbI₃ Perovskite Solar Cell Absorbers**
Sezen E., Oner S. M., DEĞER C., YAVUZ İ.
Journal of Physical Chemistry Letters, vol.13, no.41, pp.9718-9724, 2022 (SCI-Expanded)
- XVI. **Tetragonal distortion induced perpendicular magnetic anisotropy in (Fe_{0.5}Ni_{0.5})xRh(1-x) alloy thin films**
Yilmaz N., DEĞER C., Parabas A., YILDIZ F.
JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS, vol.538, 2021 (SCI-Expanded)
- XVII. **Multibit racetrack memory**
Deger C.
NANOTECHNOLOGY, vol.31, no.49, 2020 (SCI-Expanded)
- XVIII. **Origin of Perpendicular Magnetic Anisotropy in Yttrium Iron Garnet Thin Films Grown on Si (100)**
Capku Z., DEĞER C., Aksu P., Yildiz F.
IEEE TRANSACTIONS ON MAGNETICS, vol.56, no.11, 2020 (SCI-Expanded)
- XIX. **Strain-enhanced Dzyaloshinskii-Moriya interaction at Co/Pt interfaces**
DEĞER C.
SCIENTIFIC REPORTS, vol.10, no.1, 2020 (SCI-Expanded)
- XX. **Strain-promoted perpendicular magnetic anisotropy in Co-Rh alloys**
Aksu P., Deger C., Yavuz I., Yildiz F.
APPLIED PHYSICS LETTERS, vol.116, no.21, 2020 (SCI-Expanded)
- XXI. **Enhanced magneto-optical activity of multilayer thin films: a novel platform for magnetic nanoparticle sensing**
Davut C., Deger C., Yildiz F.
MEASUREMENT SCIENCE AND TECHNOLOGY, vol.31, no.1, 2020 (SCI-Expanded)
- XXII. **Impact of interlayer coupling on magnetic skyrmion size**
DEĞER C., YAVUZ İ., Yildiz F.
JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS, vol.489, 2019 (SCI-Expanded)
- XXIII. **Current-driven coherent skyrmion generation**
Deger C., Yavuz I., Yildiz F.
SCIENTIFIC REPORTS, vol.9, 2019 (SCI-Expanded)
- XXIV. **Tuning magnetic properties of non-collinear magnetization configuration in Pt/[Pt/Co](6)/Pt/Co/Pt multilayer structure**
Kalayci T., DEĞER C., Akbulut S., YILDIZ F.
JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS, vol.436, pp.11-16, 2017 (SCI-Expanded)
- XXV. **Effect of Interdot Distance on Magnetic Behavior of 2-D Ni Dot Arrays**
DEĞER C., AKSU P., YILDIZ F.
IEEE TRANSACTIONS ON MAGNETICS, vol.52, no.12, 2016 (SCI-Expanded)
- XXVI. **Magnetostatic spin wave resonance in square-patterned Ni_{0.77}Fe_{0.16}Cu_{0.05}Cr_{0.02} (Mu-metal) thinfilms**
DEĞER C., Ozdemir M., YILDIZ F.
JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS, vol.408, pp.13-17, 2016 (SCI-Expanded)
- XXVII. **Theory of room temperature ferromagnetism in Cr modified DNA nanowire**
Duru I. P., DEĞER C., Eldem V., Kalayci T., AKTAŞ Ş.
JOURNAL OF PHYSICS D-APPLIED PHYSICS, vol.49, no.13, 2016 (SCI-Expanded)
- XXVIII. **A computational study on magnetic effects of Zn_{1-x}Cr_xO type diluted magnetic semiconductor**
Duru I. P., Deger C., Kalayci T., Arucu M.
JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS, vol.396, pp.268-274, 2015 (SCI-Expanded)

Articles Published in Other Journals

- I. **Influence of capping layer on skyrmion and domain-wall formation in Co/Pt(111)**
DEĞER C.
TURKISH JOURNAL OF PHYSICS, vol.44, no.4, pp.356-363, 2020 (ESCI)
- II. **Tailoring magnetic anisotropy of Cobalt-Gold thin films**
Okay C., Aksu P., Değer C., Yıldız F.
Turkish Journal of Physics, vol.42, pp.335-341, 2018 (Scopus)
- III. **Tailoring the magnetic anisotropy of cobalt-gold thin films**
OKAY C., AKSU P., DEĞER C., YILDIZ F.
TURKISH JOURNAL OF PHYSICS, vol.42, no.3, pp.335-341, 2018 (ESCI)

Refereed Congress / Symposium Publications in Proceedings

- I. **The strength of Dzyaloshinskii-Moriya interaction in CoGd and CoFe monolayers on Pt Substrate**
DEĞER C.
EUROASIA SUMMIT Congress on Scientific Researches and Recent Trends-6, Baku, Azerbaijan, 18 - 20 May 2020
- II. **Calculations of Dzyaloshinskii-Moriya interaction at ferrimagnetic/non-magnetic interfaces: a DFT study**
DEĞER C.
ISPEC 7th International Conference on Engineering and Natural Sciences, İzmir, Turkey, 8 - 10 May 2020
- III. **Current-driven coherent skyrmion generation**
DEĞER C., YAVUZ İ., YILDIZ F.
APS March Meeting 2019, 4 - 08 March 2019
- IV. **Impact of interlayer coupling on magnetic skyrmion size**
DEĞER C., YAVUZ İ., YILDIZ F.
APS March Meeting, 4 - 08 March 2019
- V. **Magnetic Properties of Trilayer (FM/NM/FM) System for Spin Transfer Torque Applications**
KALAYCI T., DEĞER C., YILDIZ F.
Türk Fizik Derneği 33. Uluslararası Fizik Kongresi, Muğla, Turkey, 6 - 10 October 2017
- VI. **ORIGIN OF MAGNETISM IN CR3 DOPED GRAPHENE**
DEĞER C., DURU İ. P., KALAYCI T., YAVUZ İ.
Türk Fizik Derneği 33. Uluslararası Fizik Kongresi, Muğla, Turkey, 6 - 10 October 2017
- VII. **Magnetic Properties of Co Doped Graphene: a Monte-Carlo Study**
KALAYCI T., DURU İ. P., DEĞER C., YAVUZ İ.
Türk Fizik Derneği 33. Uluslararası Fizik Kongresi, Muğla, Turkey, 6 - 10 October 2017
- VIII. **Quantum Monte-Carlo Simulation of Localizable Entanglement on AFM and Mixed Heisenberg XXZ Chains**
DURU İ. P., DEĞER C., AKTAŞ Ş.
Turkish Physical Society 33rd International Physics Congress, 6 - 10 September 2017
- IX. **Modeling Magnetic Behaviour of Artificial Superstructures with In-plane Period**
DEĞER C., YILDIZ F.
Turkish Physical Society 33rd International Physics Congress, 6 - 10 September 2017
- X. **Laser-induced magnetization process in ferrimagnetic GdFe thin films and GdFe/Fe Multilayered Films**
ARUCU M., DEĞER C., DURU İ. P., Evans R., Ostler T., Chantrell R.
Türk Fizik Derneği 33. Uluslararası Fizik Kongresi, 6 - 10 September 2017
- XI. **FERROMAGNETISM IN METAL ION DOPED DNA: A MONTECARLO STUDY**
DEĞER C., KALAYCI T., DURU İ. P., ELDEM V., YAVUZ İ.
International Congress on Fundamental and Applied Sciences 2017, Saraybosna, Bosnia And Herzegovina, 21 - 25 August 2017
- XII. **FIRST PRINCIPLES STUDY OF REGIOSELECTIVITY OF METAL ION DOPING TO DNA BASE PAIRS**

DEĞER C., KALAYCI T., DURU İ. P., ELDEM V., YAVUZ İ.

International Congress on Fundamental and Applied Sciences 2017, Saraybosna, Bosnia And Herzegovina, 21 - 25 August 2017

- XIII. **THEORETICAL STUDY OF MAGNETIC COUPLING INFERROMAGNETIC LAYERS SEPERATED BY A METALLIC LAYER**
KALAYCI T., DEĞER C., YILDIZ F.
International Congress on Fundamental and Applied Sciences 2017, Saraybosna, Bosnia And Herzegovina, 21 - 25 August 2017
- XIV. **FARKLI DÜZENE SAHİP [PT/CO] İNCE FİLMERİN ELEKTRONİK ÖZELLİKLERİNİN BELİRLENMESİ**
KALAYCI T., DEĞER C., DURU İ. P., AKTAŞ Ş., YILDIZ F.
ADIM FİZİK GÜNLERİ VI, Balıkesir, Turkey, 19 - 21 July 2017
- XV. **ÇOK KATMANLI İNCE FİMLERDE DOĞRUDAŞ OLMAYAN MİKNATISLANMA KONFIGÜRASYONUNUN MANYETİK ÖZELLİKLERİ**
KALAYCI T., DEĞER C., YILDIZ F.
ADIM FİZİK GÜNLERİ VI, Balıkesir, Turkey, 19 - 21 July 2017
- XVI. **Non-collinear Magnetic Configuration on Multilayered Thin Films**
KALAYCI T., DEĞER C., AKTAŞ Ş., YILDIZ F.
The European Conference Physics of Magnetism, Poznan, Poland, 25 - 30 June 2017
- XVII. **Tailoring the Magnetic Behaviour of Magnetically Coupled Trilayer System by Changing Layer Thickness**
KALAYCI T., AKBULUT S., DEĞER C., YILDIZ F.
2ND INTERNATIONAL CONGRESS ON THE WORLD OF TECHNOLOGY AND ADVANCED MATERIAL, 28 September - 02 October 2016
- XVIII. **Determining Bilinear Coupling Constants of Pt Co n Pt Co Thin Films**
DEĞER C., AKBULUT S., KALAYCI T., AKTAŞ Ş., YILDIZ F.
2ND INTERNATIONAL CONGRESS ON THE WORLD OF TECHNOLOGY AND ADVANCED MATERIALS, 28 September - 02 October 2016
- XIX. **Investigation of Magnetic Anisotropy in Multilayered System for STT Applications a Monte Carlo Study**
KALAYCI T., AKBULUT S., DEĞER C., YILDIZ F.
2ND INTERNATIONAL CONGRESS ON THE WORLD OF TECHNOLOGY AND ADVANCED MATERIALS, 28 September - 02 October 2016
- XX. **Spacer layer thickness dependence of magnetic anisotropy in Co Pt x Pt Co multilayers**
KALAYCI T., AKBULUT S., DEĞER C., YILDIZ F.
NanoTR-12, 3 - 05 June 2016
- XXI. **Effect of in plane Co layer thickness on magnetic anisotropy in Co Pt n Pt Co multilayer**
DEĞER C., AKBULUT S., KALAYCI T., YILDIZ F.
NanoTR-12, 3 - 05 June 2016
- XXII. **Phase Transition in Zn_{1-x}Mn_xO type thin films Effect of distance dependent exchange coupling parameter**
DURU İ. P., DEĞER C., KALAYCI T., ARUCU M.
International Conference on Superconductivity and Magnetism, 24 - 30 April 2016
- XXIII. **Noktasal Desenli Nikel İnce Filmlerde Manyetik Anizotropinin Noktalar Arası Mesafe ile Kontrol Edilmesi**
DEĞER C., AKSU P., YILDIZ F.
ADIM FİZİK GÜNLERİ V, Turkey, 21 - 23 April 2016
- XXIV. **Tailoring Electronic Structure and Magnetic Phases by Changing Doping Ratio in Diluted Magnetic Semiconductors**
KALAYCI T., DEĞER C., DURU İ. P., ARUCU M.
International Conference on Advances in Natural and Applied Sciences, 21 - 23 April 2016
- XXV. **Effect of Interdot Distance on Magnetic Anisotropy in Two Dimensional Ni Dot Arrays**

DEĞER C., AKSU P., YILDIZ F.

International Conference on Advances in Natural and Applied Sciences, 21 - 23 April 2016

XXVI. AFM FM İnce Filmlerde AFM Tabaka Kalınlığının Manyetik Anizotropiye Etkisinin Monte Carlo Metodu İle İncelenmesi

KARAKAŞ S. A., DURU İ. P., DEĞER C., AKTAŞ Ş., YILDIZ F.

21. Yoğun Madde Fiziği - Ankara Toplantısı, Turkey, 25 - 27 December 2015

XXVII. Investigation of Magnetostatic Spin Wave Resonance in Patterned Soft Magnetic Thin Films

DEĞER C., ÖZDEMİR M., YILDIZ F.

European School on Magnetism, 24 August - 08 September 2015

XXVIII. Investigation of Magnetostatic Spin Wave Resonance in Patterned Mu metal Thin Films

DEĞER C., YILDIZ F., ÖZDEMİR M.

International Conference on Magnetism, 5 - 10 July 2015

XXIX. İnce Filmlerin Monte Carlo Metoduyla Manyetik Karakterizasyonu

KALAYCI T., DURU İ. P., DEĞER C.

ADIM FİZİK GÜNLERİ IV, Turkey, 27 - 29 May 2015

XXX. Theoretical Study of the Magnetic Differences of Cr and Co Ion Modified DNA Thin Films

DURU İ. P., DEĞER C., KALAYCI T., ELDEM V.

ISSTC-2015, 11 - 13 May 2015

XXXI. Investigation on Magnetic Properties of Soft Hard Magnetic Bilayers at Different Temperatures A Monte Carlo Study

DEĞER C., MEHMET EMRE A., ERKOVAN M., YILDIZ F.

APMAS-2015, 16 - 19 April 2015

XXXII. A Study of Determining Magnetic Effects on Zn_{1-x}Mn_xO and Zn_{1-x}Cr_xO Type Diluted Magnetic Semiconductors

DURU İ. P., DEĞER C., KALAYCI T.

TFD 31th International Physics Congress, 21 - 24 July 2014

Metrics

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