

## Assoc. Prof. YEŞİM MOĞULKOÇ



### Personal Information

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### International Researcher IDs

**ScholarID:** NYFbp4gAAAAJ

**ORCID:** 0000-0002-7502-1522

**Publons / Web Of Science ResearcherID:** A-7726-2012

**ScopusID:** 52564052600

**Yoksis Researcher ID:** 107882

### Education Information

Post Doctorate, Radboud(Katholieke) University Nijmegen, Faculty of Science, Theory of Condensed Matter, Netherlands 2015 - 2016

Doctorate, Ankara University, Fen Bilimleri Enstitüsü, Fizik Mühendisliği (Dr), Turkey  
2008 - 2013

Postgraduate, Ankara University, Fen Bilimleri Enstitüsü, Fizik Mühendisliği (YI) (Tezli),  
Turkey 2006 - 2008

Undergraduate, Ankara University, Mühendislik Fakültesi, Fizik Mühendisliği Bölümü,  
Turkey 2002 - 2006

### Biography

Dr. Yeşim Moğulkoç was born in 1983 in Bursa, Turkey. She completed her undergraduate studies at Ankara University Faculty of Engineering, Department of Physics Engineering, graduating with the highest honors from 2002 to 2006. She continued her education at Ankara University, completing her Master's degree from 2006 to 2008 and her Ph.D. in the field of Physics Engineering at the Institute of Science from 2008 to 2013.

Following her doctoral studies, she conducted postdoctoral research from 2015 to 2016 at Radboud University in Nijmegen, the Netherlands, in the "Theory of Condensed Matter" group. Dr. Moğulkoç initiated her research career in the field of materials physics during her internship in Dresden, Germany, at Forschungszentrum Helmholtz Dresden Rossendorf.

Dr. Moğulkoç currently leads a research group, collaborating with her team at Ankara University ([hymf.ankara.edu.tr](http://hymf.ankara.edu.tr)), where they focus on multidisciplinary and quantum mechanics-based computational materials science and nanotechnology. She was awarded the title of Associate Professor in the field of "Condensed Matter Physics" by the Interuniversity Board of Turkey (YÖK) in 2018.

Her research is primarily aimed at solving critical problems in the development of nanomaterials with superior

properties, especially those relevant to technological advancements. She achieves this by employing modeling and simulation applications. Dr. Moğulkoç is actively involved in international research collaborations, including projects such as ERA-NET (FLAG-ERA), which brings together various countries, including Spain, Germany, Belgium, and France. She serves as the project coordinator, focusing on calculating the physical properties of new-generation two-dimensional magnetic materials in the field of spintronics. She also contributes as a researcher in TÜBİTAK-1001 projects, focusing on the calculation of the magnetic properties of two-dimensional materials.

The Ankara University Scientific Research Project Coordination Unit also supports Dr. Moğulkoç's research projects related to two-dimensional materials. She has 1 national patent.

Throughout her academic career, Dr. Moğulkoç has published high-impact papers in computational materials science and nanotechnology in reputable international journals. Her work has gained recognition globally and received numerous citations. She has also actively participated in various national and international conferences and events, presenting both posters and oral presentations and has been invited as a guest speaker on numerous occasions. She is married and has one child.

## Foreign Languages

English, C1 Advanced

## Certificates, Courses and Trainings

Vocational Training, Baş't Ankara Eğitim Programı, Ankara University, 2024

Health&Medicine, TEKNOFEST KARADENİZ 2022 Yarışma Finalisti, Ministry of Industry and Technology, 2022

## Dissertations

Doctorate, Bazı ikili ve/veya üçlü alaşımların temel fiziksel özelliklerinin yoğunluk fonksiyoneli teorisi ile incelenmesi, Ankara University, Fen Bilimleri Enstitüsü, Fizik Mühendisliği (Dr), 2013

Postgraduate, Üçüncü nesil ve dördüncü nesil ışınım kaynakları için kullanılan magnetlerin ışınım karakteristiklerine etkilerinin incelenmesi, Ankara University, Fen Bilimleri Enstitüsü, Fizik Mühendisliği (YI) (Tezli), 2008

## Research Areas

Physics, Intensive Article 2: Electronic Structure, Electric, Magnetic and Optical Properties, Electronic structure of bulk material, Electrical properties of electronic structures, interfaces, thin films and low-dimensional structures, Magnetic Properties and Materials, Optical Properties, Spectroscopy of Matter, Electronic transport in condensed matter, Computational Chemistry, Natural Sciences, Engineering and Technology

## Academic Titles / Tasks

Associate Professor, Ankara University, Mühendislik Fakültesi, Yazılım Mühendisliği Bölümü, 2023 - Continues

Associate Professor, Ankara University, Mühendislik Fakültesi, Fizik Mühendisliği Bölümü, 2018 - 2023

Lecturer, Ankara University, Mühendislik Fakültesi, Fizik Mühendisliği Bölümü, 2010 - 2023

Lecturer PhD, Katholieke Universiteit Nijmegen, Institute for Molecules and Materials, Theory of Condensed Matter, 2015 - 2016

## Academic and Administrative Experience

Performans Değerlendirme Komisyonu Başkanı, Ankara University, Mühendislik Fakültesi, Fizik Mühendisliği Bölümü, 2023 - Continues  
Bölüm Akademik Teşvik Değerlendirme Komisyonu Üyesi, Ankara University, Mühendislik Fakültesi, Fizik Mühendisliği Bölümü, 2023 - Continues  
Uygulama ve Araştırma Merkezi Yönetim Kurulu Üyesi, Ankara University, Rektörlük, Süperiletken Teknolojileri Uyg. ve Arş.Merk., 2023 - Continues  
Yüksekokul Yönetim Kurulu Üyesi, Ankara University, Elmadağ Meslek Yüksekokulu, 2021 - Continues  
Member of the Faculty of Engineering Working Group, Ankara University, Rektörlük, Kadın Platformu Koordinatörlüğü, 2020 - Continues  
Teknofest ve Yarışmalar Koordinatörü, Ankara University, Mühendislik Fakültesi, Fizik Mühendisliği Bölümü, 2021 - 2022

## Courses

SOLID STATE PHYSICS I, Undergraduate, 2023 - 2024  
Introduction to Condensed Matter Physics, Postgraduate, 2023 - 2024, 2022 - 2023  
Introduction to Python, Undergraduate, 2023 - 2024  
Physics Laboratory, Undergraduate, 2022 - 2023  
INTRODUCTION TO COMPUTER PROGRAMMING, Undergraduate, 2023 - 2024, 2022 - 2023, 2019 - 2020  
Fizik Mühendisliği Araştırma Teknikleri II, Undergraduate, 2022 - 2023  
RESEARCH PROJECT, Undergraduate, 2023 - 2024, 2022 - 2023  
Research Techniques in Physics Engineering, Undergraduate, 2022 - 2023, 2021 - 2022, 2019 - 2020, 2018 - 2019  
Simulation of the Electronic Structure of Solids, Postgraduate, 2023 - 2024, 2022 - 2023, 2021 - 2022, 2019 - 2020  
NANOSTRUCTURED MATERIALS, Undergraduate, 2023 - 2024, 2022 - 2023, 2020 - 2021  
Uzmanlık Alan Dersi, Postgraduate, 2023 - 2024, 2022 - 2023, 2020 - 2021, 2019 - 2020  
Technical Drawing, Undergraduate, 2023 - 2024  
Uzmanlık Alan Dersi, Doctorate, 2022 - 2023, 2021 - 2022  
NANOTECHNOLOGY, Undergraduate, 2021 - 2022  
Current Issues in Physics, Undergraduate, 2022 - 2023, 2020 - 2021, 2019 - 2020  
COMPUTATIONAL PHYSICS, Undergraduate, 2021 - 2022  
PHYSICS LABORATORY II, Undergraduate, 2021 - 2022  
Research Techniques in Engineering Physics I, Undergraduate, 2022 - 2023, 2020 - 2021  
Tez Çalışması, Doctorate, 2022 - 2023, 2021 - 2022  
PHYSICS LABORATORY I, Undergraduate, 2022 - 2023  
COMPUTER APPLICATIONS IN PHYSICS I, Undergraduate, 2021 - 2022  
Computer Applications in Physics I, Undergraduate, 2022 - 2023  
PHYSICS II, Undergraduate, 2021 - 2022, 2019 - 2020  
Tez Çalışması, Postgraduate, 2020 - 2021  
Kathal Fiziği II, Undergraduate, 2019 - 2020  
Seminer, Postgraduate, 2019 - 2020  
PHYSICS I, Undergraduate, 2020 - 2021, 2019 - 2020  
Physics II, Undergraduate, 2019 - 2020  
INTRODUCTION TO COMPUTER PROGRAMMING, Undergraduate, 2020 - 2021  
PHYSICS I, Undergraduate, 2020 - 2021  
Bilgisayar Programlama II, Undergraduate, 2019 - 2020  
Physics I, Undergraduate, 2018 - 2019  
Physics I, Undergraduate, 2019 - 2020  
Quantum Physics Lab. I, Undergraduate, 2018 - 2019

Physics I, Undergraduate, 2014 - 2015

Physics I, Undergraduate, 2014 - 2015

## Advising Theses

Moğulkoç Y., İki Boyutlu Yanal Heteroyapılarda Bant Hizalanmasının İlk İlkel Yöntemlerle Hesaplanması, Postgraduate, P.ASLAN(Student), Continues

Moğulkoç Y., Numerical Investigation of the Effect of Strain on Two Dimensional Group IV Chalcogens, Postgraduate, G.ENEKÇİ(Student), Continues

Moğulkoç Y., TOKSİK GAZ MOLEKÜLLERİNİN İKİ BOYUTLU MALZEMELER ÜZERİNE ADSORPSİYONU, Doctorate, Y.ZENGİN(Student), 2023

Moğulkoç Y., ALKALİ VE TOPRAK ALKALİ ATOMLARIN İKİ BOYUTLU KURŞUN MONOKSİTE ADSORPSİYONU, Postgraduate, S.ULUDAĞ(Student), 2022

MOĞULKOÇ Y., İki boyutlu magnetik sistemlerin fonksiyonelleştirilmesi, Postgraduate, R.ÇAĞLAYAN(Student), 2021

## Jury Memberships

Appointment to Academic Staff-Assistant Professorship, Appointment to Academic Staff-Assistant Professorship, Bartın Üniversitesi, January, 2024

Appointment to Academic Staff-Assistant Professorship, Appointment to Academic Staff-Assistant Professorship, Bartın Üniversitesi, January, 2024

Appointment to Academic Staff-Assistant Professorship, Appointment to Academic Staff-Assistant Professorship, Gazi Üniversitesi, May, 2023

Doctoral Examination, Doctoral Examination, Sivas Cumhuriyet Üniversitesi, December, 2022

Doctoral Examination, Doctoral Examination, Gazi Üniversitesi, May, 2021

## Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Two-dimensional Janus  $X_{2}Te$  ( $X = B, Al$ ) monolayers: the effect of surface selectivity and adsorption of small gas molecules on electronic and optical properties**  
Zengin Y., MOĞULKOÇ Y.  
PHYSICAL CHEMISTRY CHEMICAL PHYSICS, vol.26, no.23, pp.16603-16615, 2024 (SCI-Expanded)
- II. **Novel two-dimensional Janus YMN ( $M = I, Br$  and  $N = Cl, Br$ ) monolayers**  
TAYRAN C., MOĞULKOÇ Y., ÇAKMAK M.  
Materials Science in Semiconductor Processing, vol.166, 2023 (SCI-Expanded)
- III. **New stable ultrawide bandgap  $As_2O_3$  semiconductor materials**  
Abdullahi Y. Z., Caglayan R., MOĞULKOÇ A., MOĞULKOÇ Y., Ersan F.  
JPhys Materials, vol.6, no.2, 2023 (SCI-Expanded)
- IV. **Giant band gap bowing in two dimensional  $Pb_{1-x}Sn_xO$  alloys and Janus  $PbSnO$  monolayers**  
Abdullahi Y. Z., Bakhtatou A., Moğulkoç Y., Ersan F.  
Journal of Physics and Chemistry of Solids, vol.175, 2023 (SCI-Expanded)
- V. **Effect of magnon-magnon interaction on ferromagnetism in hexagonal manganese pnictide monolayers**  
Memarzadeh S., Caglayan R., MOĞULKOÇ Y., Modarresi M., MOĞULKOÇ A.  
Physical Review B, vol.107, no.14, 2023 (SCI-Expanded)
- VI. **Comprehensive study on electronic structures of  $SiGe/Ga_2SeTe$  vdW heterobilayer**  
MOĞULKOÇ Y., GÜLER H., Tokmakci B., Caglayan R.  
Journal of Materials Science, vol.58, no.9, pp.4020-4030, 2023 (SCI-Expanded)

- VII. **Easy-axis rotation in ferromagnetic monolayer CrN induced by fluorine and chlorine functionalization**  
Caglayan R., MOĞULKOÇ Y., MOĞULKOÇ A., Modarresi M., Rudenko A. N.  
PHYSICAL CHEMISTRY CHEMICAL PHYSICS, vol.24, no.41, pp.25426-25433, 2022 (SCI-Expanded)
- VIII. **An analysis of Schottky barrier in silicene/Ga<sub>2</sub>SeS heterostructures by employing electric field and strain**  
Caglayan R., Guler H. E., Mogulkoc Y.  
PHYSICAL CHEMISTRY CHEMICAL PHYSICS, vol.24, pp.10210-10221, 2022 (SCI-Expanded)
- IX. **Design of nanoscale capacitors based on metallic borophene and insulating boron nitride layers**  
MOĞULKOÇ Y., MOĞULKOÇ A., GÜLER H., Durgun E.  
Physical Review Materials, vol.5, no.12, 2021 (SCI-Expanded)
- X. **Biaxial Strain-Induced Electronic Structure and Optical Properties of SiP<sub>2</sub>S Monolayer**  
Tayran C., Caglayan R., MOĞULKOÇ Y., ÇAKMAK M., Alkan B.  
JOURNAL OF ELECTRONIC MATERIALS, vol.50, no.11, pp.6253-6260, 2021 (SCI-Expanded)
- XI. **Band Alignment in Monolayer Boron Phosphide with Janus MoSSe Heterobilayers under Stran and Electric Field**  
MOĞULKOÇ Y., Caglayan R., ÇİFTÇİ Y.  
PHYSICAL REVIEW APPLIED, vol.16, no.2, 2021 (SCI-Expanded)
- XII. **Prediction of monoclinic single-layer Janus Ga<sub>2</sub>TeX (X = S and Se): Strong in-plane anisotropy**  
Yagmurcukardes M., Mogulkoc Y., Akgenc B., MOĞULKOÇ A., Peeters F. M.  
PHYSICAL REVIEW B, vol.104, no.4, 2021 (SCI-Expanded)
- XIII. **Theoretical characterization of induced ferromagnetism, half-metallic behavior, electronic properties in new Ti-doped BaO**  
Hachemaoui M., Meskine M., Mokaddem A., Doumi B., MOĞULKOÇ Y., Tadjer A.  
OPTICAL AND QUANTUM ELECTRONICS, vol.53, no.6, 2021 (SCI-Expanded)
- XIV. **First principles study on optoelectronic properties of energetically stable Si/InS van der Waals heterobilayers**  
Caglayan R., Mogulkoc Y., Mogulkoc A., Alkan B.  
Journal of Materials Science, vol.55, no.31, pp.15199-15212, 2020 (SCI-Expanded)
- XV. **Oxygenation of monolayer gallium monochalcogenides: Design of two-dimensional ternary Ga<sub>2</sub>X O structures (X= S,Se,Te)**  
Demirtas M., Ozdemir B., Mogulkoc Y., Durgun E.  
Physical Review B, vol.101, no.7, 2020 (SCI-Expanded)
- XVI. **Characterization and Stability of Janus TiXY (X/Y = S, Se, and Te) Monolayers**  
Mogulkoc A., Mogulkoc Y., Jahangirov S., Durgun E.  
Journal of Physical Chemistry C, vol.123, no.49, pp.29922-29931, 2019 (SCI-Expanded)
- XVII. **Boron Phosphide van Der Waals p-n Junction via Molecular Adsorption**  
Mogulkoc Y., Modarresi M., Mogulkoc A., Alkan B.  
Physical Review Applied, vol.12, no.5, 2019 (SCI-Expanded)
- XVIII. **Lateral Spin Valve Based on the Two-Dimensional CrN/P/CrN Heterostructure**  
Modarresi M., Mogulkoc A., Mogulkoc Y., Rudenko A. N.  
Physical Review Applied, vol.11, no.6, 2019 (SCI-Expanded)
- XIX. **The electronic, half-metallic, and magnetic properties of Ca 1-x Cr x S ternary alloys: Insights from the first-principle calculations**  
Obeid M. M., Jappor H. R., Edrees S. J., Shukur M. M., Khenata R., Mogulkoc Y.  
Journal of Molecular Graphics and Modelling, vol.89, pp.22-32, 2019 (SCI-Expanded)
- XX. **Engineering the optical and electronic properties of Janus monolayer Ga<sub>2</sub>SSe by biaxial strain**  
Jappor H. R., Obeid M. M., Vu T. V., Hoat D. M., Bui H. D., Hieu N. N., Edrees S. J., MOĞULKOÇ Y., Khenata R.  
SUPERLATTICES AND MICROSTRUCTURES, vol.130, pp.545-553, 2019 (SCI-Expanded)
- XXI. **Analysis of the structural, electronic, elastic and thermodynamic properties of CuAl<sub>2</sub>X<sub>4</sub> (X = O, S) spinel structure**

Obeid M. M., Mogulkoc Y., Edrees S. J., ÇİFTÇİ Y., Shukur M. M., Al-Marzooqee M. M. H.

Materials Research Bulletin, vol.108, pp.255-265, 2018 (SCI-Expanded)

- XXII. **Electronic structure and optical properties of novel monolayer gallium nitride and boron phosphide heterobilayers**  
MOĞULKOÇ A., Mogulkoc Y., Modarresi M., Alkan B.  
PHYSICAL CHEMISTRY CHEMICAL PHYSICS, vol.20, no.44, pp.28124-28134, 2018 (SCI-Expanded)
- XXIII. **The effect of strain and functionalization on the optical properties of borophene**  
MOĞULKOÇ A., Mogulkoc Y., Kecik D., Durgun E.  
PHYSICAL CHEMISTRY CHEMICAL PHYSICS, vol.20, no.32, pp.21043-21050, 2018 (SCI-Expanded)
- XXIV. **Electronic and optical properties of boron phosphide/blue phosphorus heterostructures**  
MOĞULKOÇ Y., Modarresi M., MOĞULKOÇ A., Alkan B.  
PHYSICAL CHEMISTRY CHEMICAL PHYSICS, vol.20, no.17, pp.12053-12060, 2018 (SCI-Expanded)
- XXV. **First-Principle Predictions of Electronic Properties and Half-Metallic Ferromagnetism in Vanadium-Doped Rock-Salt SrO**  
Berber M., Doumi B., Mokaddem A., MOĞULKOÇ Y., Sayede A., Tadjer A.  
JOURNAL OF ELECTRONIC MATERIALS, vol.47, no.1, pp.449-456, 2018 (SCI-Expanded)
- XXVI. **DFT-based ab-initio study of half-Heusler KCaP compound**  
Mogulkoc Y., ÇİFTÇİ Y., SÜRÜCÜ G.  
Journal of Optoelectronics and Advanced Materials, vol.20, no.1-2, pp.61-68, 2018 (SCI-Expanded)
- XXVII. **First principle and tight-binding study of strained SnC**  
Mogulkoc Y., Modarresi M., MOĞULKOÇ A., ÇİFTÇİ Y., Alkan B.  
JOURNAL OF PHYSICS AND CHEMISTRY OF SOLIDS, vol.111, pp.458-463, 2017 (SCI-Expanded)
- XXVIII. **Investigation of structural stability, elastic properties, electronic structure and ferrimagnetic behavior of Mn<sub>2</sub>RhGe full-Heusler alloy**  
Chehrouri M., Doumi B., Mokaddem A., MOĞULKOÇ Y., Berber M., Boudali A.  
JOURNAL OF ALLOYS AND COMPOUNDS, vol.722, pp.564-568, 2017 (SCI-Expanded)
- XXIX. **Investigation of electronic structure and half-metallic ferromagnetic behavior with large half-metallic gap in Sr<sub>1-x</sub>V<sub>x</sub>O**  
Berber M., Doumi B., Mokaddem A., MOĞULKOÇ Y., Sayede A., Tadjer A.  
JOURNAL OF COMPUTATIONAL ELECTRONICS, vol.16, no.3, pp.542-547, 2017 (SCI-Expanded)
- XXX. **Structural phase transition, electronic, elastic, and vibrational properties of LiAl intermetallic compound: insights from first-principles calculations**  
MOĞULKOÇ Y., ÇİFTÇİ Y., SÜRÜCÜ G.  
CANADIAN JOURNAL OF PHYSICS, vol.95, no.8, pp.691-698, 2017 (SCI-Expanded)
- XXXI. **Semimetal behavior of bilayer stanene**  
Evazzade I., Roknabadi M. R., Morshedloo T., Modarresi M., MOĞULKOÇ Y., Far H. N.  
PHYSICA E-LOW-DIMENSIONAL SYSTEMS & NANOSTRUCTURES, vol.89, pp.155-159, 2017 (SCI-Expanded)
- XXXII. **Electronic and optical properties of bilayer blue phosphorus**  
Mogulkoc Y., Modarresi M., MOĞULKOÇ A., ÇİFTÇİ Y.  
COMPUTATIONAL MATERIALS SCIENCE, pp.23-29, 2016 (SCI-Expanded)
- XXXIII. **Effect of pressure on structural, electronic, mechanical and optical properties of ruthenium diboride with oP(12)-type structure**  
AYDIN S., ÇİFTÇİ Y., MOĞULKOÇ Y., Tatar A.  
INDIAN JOURNAL OF PHYSICS, vol.90, no.7, pp.767-779, 2016 (SCI-Expanded)
- XXXIV. **Structural, electronic and magnetic properties of Fe-2-based full Heusler alloys: A first principle study**  
Dahmane F., MOĞULKOÇ Y., Doumi B., Tadjer A., Khenata R., Bin Omran S., Rai D. P., Murtaza G., Varshney D.  
JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS, vol.407, pp.167-174, 2016 (SCI-Expanded)
- XXXV. **Investigations of the Structural, Electronic, Magnetic, and Half-Metallic Behavior of Co(2)MnZ (Z = Al, Ge, Si, Ga) Full-Heusler Compounds**  
Dahmane F., Doumi B., MOĞULKOÇ Y., Tadjer A., Prakash D., Verma K. D., Varshney D., Ghebouli M. A., Bin Omran S.,

- Khenata R.  
JOURNAL OF SUPERCONDUCTIVITY AND NOVEL MAGNETISM, vol.29, no.3, pp.809-817, 2016 (SCI-Expanded)
- XXXVI. **Polaronic effects in monolayer black phosphorus on polar substrates**  
MOĞULKOÇ A., Mogulkoc Y., Rudenko A. N., Katsnelson M. I.  
PHYSICAL REVIEW B, vol.93, no.8, 2016 (SCI-Expanded)
- XXXVII. **First-principles investigations on ferromagnetic behaviour of Be(1-x)V(x)Z (Z = S, Se and Te) (x=0.25)**  
Doumi B., Mokaddem A., Sayede A., Dahmane F., Moğulkoç Y., Tadjer A.  
SUPERLATTICES AND MICROSTRUCTURES, vol.88, pp.139-149, 2015 (SCI-Expanded)
- XXXVIII. **Effect of external strain on electronic structure of stanene**  
Modarresi M., Kakoei A., Moğulkoç Y., Roknabadi M. R.  
COMPUTATIONAL MATERIALS SCIENCE, vol.101, pp.164-167, 2015 (SCI-Expanded)
- XXXIX. **First-principles calculations of the mechanic and vibration properties of AgRE (RE = Ho, Er, Tm) intermetallic compounds under pressure**  
Moğulkoç Y., Çiftci Y., Colakoglu K., Deligoz E.  
PHYSICA SCRIPTA, vol.90, no.2, 2015 (SCI-Expanded)
- XL. **First-principles calculations of electronic and thermodynamic properties of cubic structures of NdTe**  
Mogulkoc Y., ÇİFTÇİ Y., Colakoglu K.  
JOURNAL OF OPTOELECTRONICS AND ADVANCED MATERIALS, no.5-6, pp.529-535, 2014 (SCI-Expanded)
- XLI. **Ab initio study of the structural, elastic, thermodynamic, electronic and vibration properties of TbMg intermetallic compound**  
Mogulkoc Y., ÇİFTÇİ Y., Kabak M., Colakoglu K.  
Superlattices and Microstructures, vol.71, pp.46-61, 2014 (SCI-Expanded)
- XLII. **Preparation and characterization of poly(2-hydroxyethyl methacrylate)/Na-montmorillonite intercalated nanocomposites**  
Koc Z., ÇELİK M., ÖNAL M., Sarikaya Y., MOĞULKOÇ Y.  
JOURNAL OF POLYMER ENGINEERING, vol.33, no.1, pp.27-32, 2013 (SCI-Expanded)
- XLIII. **The structural, electronic, elastic, vibration and thermodynamic properties of GdMg**  
Mogulkoc Y., ÇİFTÇİ Y., Colakoglu K., Deligoz E.  
Solid State Sciences, vol.16, pp.168-174, 2013 (SCI-Expanded)
- XLIV. **Structural, elastic, electronic and thermodynamic properties of Nd<sub>2</sub>Te via first principle calculations**  
MOĞULKOÇ Y., ÇİFTÇİ Y., Colakoglu K.  
Journal of Optoelectronics and Advanced Materials, vol.13, no.8, pp.946-951, 2011 (SCI-Expanded)

## Articles Published in Other Journals

- I. **Adsorption of small gas molecules onto the two-dimensional Janus SnSSe monolayer**  
Zengin Y., Caglayan R., MOĞULKOÇ Y.  
Computational Condensed Matter, vol.36, 2023 (Scopus)
- II. **Study of electronic and lattice dynamical properties of antiperovskite-type nitrides XNNi<sub>3</sub> (X= Pd, Sn and Sb)**  
MOĞULKOÇ Y., ÇİFTÇİ Y., SÜRÜCÜ G.  
International Journal of Biosensors Bioelectronics, vol.4, no.2, pp.70-75, 2018 (Peer-Reviewed Journal)
- III. **The First Principles Approach to The Structural, Elastic, Electronic, Vibrational and Thermal Properties of CsCl type-ErAu Alloy**  
MOĞULKOÇ Y., ÇİFTÇİ Y.  
Cumhuriyet Science Journal, vol.38, no.4, pp.611-618, 2017 (Peer-Reviewed Journal)
- IV. **LiTiAl Yarı-Heusler Alaşımının Yapısal, Elastik, Elektronik ve Titreşimsel Özelliklerinin İlk İlkeler Yöntemleri Kullanılarak İncelenmesi**

MOĞULKOÇ Y., ÇİFTÇİ Y.

Cumhuriyet Fen Edebiyat Bilimleri Dergisi, vol.38, no.2, pp.312-320, 2017 (Peer-Reviewed Journal)

V. **Yarı-Heusler LiScPb Yarıiletkeni Üzerine Bir İlk İlkel Araştırma**

MOĞULKOÇ Y., ÇİFTÇİ Y.

SAÜ Fen Bilimleri Enstitüsü Dergisi, vol.21, no.6, pp.1278, 2017 (Peer-Reviewed Journal)

VI. **First principles study of structural elastic and electronic properties of NdTe<sub>2</sub> and TlNdTe<sub>2</sub>**

MOĞULKOÇ Y., ÇİFTÇİ Y., KABAK M., ÇOLAKOĞLU K.

Cumhuriyet Fen Edebiyat Bilimleri Dergisi, 2013 (Peer-Reviewed Journal)

## Books & Book Chapters

I. **ELECTRONIC STRUCTURE PROPERTIES OF BSb/Ga<sub>2</sub>SSe HETEROSTRUCTURE UNDER ELECTRIC FIELD EFFECT**

Guler H. E., Çağlayan R., Kabak M., Moğulkoç Y.

in: Physics Studies, Mehriban EMEK, Editor, İksad Yayınevi, Ankara, pp.149-162, 2021

## Refereed Congress / Symposium Publications in Proceedings

I. **Comparative Analysis of Small Gas Molecule Adsorption on 2D Janus Materials: Investigating Al and B-based Sensing Properties**

Zengin Y., Moğulkoç Y.

2nd Singapore-Türkiye Workshop on Materials Science and Engineering, Ankara, Turkey, 5 - 07 June 2024

II. **INTERFACE-DRIVEN MODULATION ON 2D MAGNETIC HETEROSTRUCTURES**

Çağlayan R., Moğulkoç A., Moğulkoç Y.

9th International Conference on Superconductivity and Magnetism, Muğla, Turkey, 27 April - 04 May 2024, pp.313-314

III. **ELECTRONIC PROPERTIES OF MONOLAYER Fe<sub>3</sub>GeTe<sub>2</sub> UNDER HUBBARD CORRECTION**

Yıldız Şengüler G., Moğulkoç Y., Moğulkoç A.

9th International Conference on Superconductivity and Magnetism, Muğla, Turkey, 27 April - 04 May 2024, pp.682

IV. **İki Boyutlu Janus  $\gamma$ -Si<sub>2</sub>XY (X/Y= Se, S, Te) Monokalkojenlerin Elektronik Özelliklerinin İncelenmesi**

Yıldız Şengüler G., Enekçi G., Moğulkoç Y.

28. Yoğun Madde Fiziği Toplantısı, Ankara, Turkey, 22 December 2023, pp.25

V. **İki Boyutlu Grup III Bor Tabanlı Malzemeler Üzerine Küçük Gaz Moleküllerinin Adsorpsiyonu**

Zengin Y., Tokmakçı B. N., Moğulkoç Y.

28. Yoğun Madde Fiziği Ankara Toplantısı, Ankara, Turkey, 22 December 2023, pp.14

VI. **İki Boyutlu Janus YBrCl Tek Tabaka Üzerine NO Toksik Gaz Molekülünün Adsorpsiyonu**

Ammad M., Awadalla M., Zengin Y., Moğulkoç Y.

28. Yoğun Madde Fiziği Ankara Toplantısı, Ankara, Turkey, 22 December 2023, pp.18

VII. **Üç Katmanlı İki Boyutlu Heteroyapılarda Kiral Magnetik Yapıların İncelenmesi**

Çağlayan R., Moğulkoç A., Moğulkoç Y.

28. Yoğun Madde Fiziği Ankara Toplantısı, Ankara, Turkey, 22 December 2023, pp.23

VIII. **İki Boyutlu Janus SnSSe Malzemesi Üzerine Küçük Gaz Moleküllerinin Adsorpsiyonu**

Zengin Y., Çağlayan R., Moğulkoç Y.

100. YIL ANISINA YOĞUN MADDE FİZİĞİ ÇALIŞTAYI, Ankara, Turkey, 27 October 2023, pp.37

IX. **Galyum Tabanlı 2B van der Waals Heteroyapılarda Bant Hizalanması**

Moğulkoç Y., Bal A. S., Çağlayan R.

100. YIL ANISINA YOĞUN MADDE FİZİĞİ ÇALIŞTAYI, Ankara, Turkey, 27 October 2023, pp.35

X. **Janus İki Boyutlu XCl (X= Be, Mg, Ca) Malzemelerinin Optoelektronik Özelliklerinin Ab-initio Yöntemler Kullanılarak İncelenmesi**

Moğulkoç Y., Yıldız Şengüler G., Demir S.

100. YIL ANISINA YOĞUN MADDE FİZİĞİ ÇALIŞTAYI, Ankara, Turkey, 27 October 2023, pp.36

**XI. İki Boyutlu Manyetik Malzemeler**

Moğulkoç Y.

100. YIL ANISINA YOĞUN MADDE FİZİĞİ ÇALIŞTAYI, Ankara, Turkey, 27 October 2023, pp.8

**XII. 2D Magnetic Materials**

Moğulkoç Y.

Singapore-Turkey Workshop on Materials Science and Engineering', İstanbul, Turkey, 12 - 14 July 2023

**XIII. Effect of magnon-magnon interaction on the ferromagnetism in hexagonal manganese pnictide monolayers**

Memarzadeh S., Modarresi M., Caglayan R., Moğulkoç Y., Moğulkoç A.

The European Conference PHYSICS OF MAGNETISM 2023, Poznan, Poland, 26 - 30 June 2023, pp.39

**XIV. THE EFFECT OF FUNCTIONALIZATION ON MAGNETIC ANISOTROPY OF 2D MAGNETIC MATERIALS**

Caglayan R., Moğulkoç Y., Moğulkoç A., Modarresi M., Rudenko A.

THE 8th INTERNATIONAL CONFERENCE on SUPERCONDUCTIVITY and MAGNETISM, Muğla, Turkey, 4 - 11 May 2023, pp.294

**XV. Two Dimensional Magnetic Heterostructures**

Moğulkoç Y.

X. Yoğun Madde Fiziği İzmir Toplantısı, İzmir, Turkey, 28 April 2023

**XVI. Theoretical modeling of 2D ferromagnetic material**

Moğulkoç Y.

9th International Conference on Materials Science and Nanotechnology for Next Generation (MSNG-2022), Ankara, Turkey, 22 - 24 September 2022, pp.33

**XVII. Schottky Barrier in 2D Janus Materials**

Zengin Y., Guler H. E., Caglayan R., Moğulkoç Y.

26. Yoğun Madde Fiziği Ankara Toplantısı, Ankara, Turkey, 24 December 2021, pp.27

**XVIII. İki Boyutlu BSb/CrP Heteroyapısının Elektronik Özellikleri**

Leloğlu D., MOĞULKOÇ A., MOĞULKOÇ Y.

26. Yoğun Madde Fiziği Toplantısı Ankara, Ankara, Turkey, 24 December 2021

**XIX. İki Boyutlu Janus van der Waals Heteroyapılarda Arayüz Etkileşmesi**

Caglayan R., Moğulkoç Y.

26. Yoğun Madde Fiziği Ankara Toplantısı, Ankara, Turkey, 24 December 2021, pp.34

**XX. ELECTRONIC PROPERTIES OF TWO-DIMENSIONAL BAS/CrP HETEROSTRUCTURE**

Leloğlu D., MOĞULKOÇ A., MOĞULKOÇ Y., ALKAN Ş. B.

1ST INTERNATIONAL CONFERENCE OF PHYSICS, Ankara, Turkey, 17 August 2021, pp.109-116

**XXI. First-principles Prediction of Optoelectronics Properties for Zinc-Tin-Phosphate for Thin Film Solar Cells**

Hadjab M., MOĞULKOÇ Y., Bennacer H., Ziane M. I.

8th International Renewable and Sustainable Energy Conference (IRSEC'20), 25 - 28 November 2020

**XXII. Boron phosphide based 2D heterostructures**

MOĞULKOÇ Y., MOĞULKOÇ A., MODARRESİ M.

Graphene and 2DM Fundamental Research Insights 2020, 07 July 2020

**XXIII. 2D Van der Waals Lateral Spin Valve**

MOĞULKOÇ A., MOĞULKOÇ Y., Modarresi M., Rudenko A.

Graphene and 2DM Industrial Forum, Spain, 27 May 2020

**XXIV. Characterization and Stability of Janus TiXY (X/Y= S, Se, and Te) Monolayers**

MOĞULKOÇ A., MOĞULKOÇ Y., Jahangirov S., DURGUN E.

Workshop on Computational Physics and Materials Science: Total Energy and Force Methods 2020, San Sebastián, Spain, 8 - 10 January 2020

**XXV. Si/InS 2D Heteroyapılarının Optoelektronik Özellikleri**

Çağlayan R., MOĞULKOÇ Y., MOĞULKOÇ A., ALKAN Ş. B.

25. YOĞUN MADDE FİZİĞİ ANKARA TOPLANTISI, Turkey, 20 December 2019
- XXVI. **İki-boyutlu van der Waals p-n eklemi**  
MOĞULKOÇ Y., MODARRESİ M., MOĞULKOÇ A., ALKAN Ş. B.  
25. YOĞUN MADDE FİZİĞİ ANKARA TOPLANTISI, Turkey, 20 December 2019
- XXVII. **Bor Fosfid/Mavi Fosforen Heteroyapının Elektronik ve Optik Özellikleri**  
MOĞULKOÇ Y., MODARRESİ M., MOĞULKOÇ A., ALKAN Ş. B.  
24. Yoğun Madde Fiziği-Ankara Toplantısı, Turkey, 21 December 2018
- XXVIII. **Borofenin Optik Özelliklerine Zorlamanın ve Fonksiyonelleştirmenin Etkisi**  
MOĞULKOÇ A., MOĞULKOÇ Y., Keçik D., DURGUN E.  
24. Yoğun Madde Fiziği-Ankara Toplantısı, Turkey, 21 December 2018
- XXIX. **LiPb : Structural, Elastic, Electronic, Thermodynamic And Vibrational Properties By First Principles Calculations**  
ÇİFTÇİ Y., ALP İ., MOĞULKOÇ Y.  
II. International Congress on New Trends in Science, Engineering and Technology, 4 - 06 September 2018
- XXX. **ELECTRONIC AND OPTICAL PROPERTIES OF SINGLE-LAYER STRAINED SNC**  
MOĞULKOÇ Y., MODARRESİ M., MOĞULKOÇ A., ÇİFTÇİ Y., ALKAN Ş. B.  
TURKISH PHYSICAL SOCIETY 33rd INTERNATIONAL PHYSICS CONGRESS, Muğla, Turkey, 6 - 10 September 2017
- XXXI. **ELECTRONIC AND MECHANICAL PROPERTIES OF HALF HEUSLER SEMICONDUCTOR LiScSn VIA FIRST-PRINCIPLES CALCULATIONS**  
MOĞULKOÇ Y., ÇİFTÇİ Y.  
TURKISH PHYSICAL SOCIETY 33rd INTERNATIONAL PHYSICS CONGRESS, 6 - 10 September 2017
- XXXII. **An ab-initio study of structural, elastic, electronic and optical properties for chalcopyrite semiconductor CaSiN<sub>2</sub> compound**  
ÇİFTÇİ Y., ALP İ., MOĞULKOÇ Y.  
5. European Conference on Renewable Energy Systems, Bosnia And Herzegovina, 27 - 30 August 2017
- XXXIII. **Yarı-heusler LiScTi alaşımının yapısal, elastik, elektronik ve titreşimsel özelliklerinin ilk ilkesel yöntemlerle incelenmesi**  
MOĞULKOÇ Y., ÇİFTÇİ Y.  
ADIM FİZİK GÜNLERİ VI, Balıkesir, Turkey, 19 - 21 July 2017
- XXXIV. **A DFT Study on Structural Phase Transition and Mechanical Properties of LiAl**  
MOĞULKOÇ Y., ÇİFTÇİ Y., SÜRÜCÜ G.  
WITAM-2016 (2nd International Congress on the World of Technology and Advanced Materials), 28 September - 02 October 2016
- XXXV. **Yarı iletken Half Heusler LiTiAl Bileşiğinin Temel Fiziksel Özelliklerinin Ab initio Yöntemlerle İncelenmesi**  
ÇİFTÇİ Y., MOĞULKOÇ Y.  
22. Yoğun Madde Fiziği Ankara Toplantısı, Turkey, 16 December 2016
- XXXVI. **LiScPb Yarı Heusler Yarıiletken Malzemesinin İlk İlkesel Prensiplerle Elektronik ve Optik Özelliklerinin Belirlenmesi**  
MOĞULKOÇ Y., ÇİFTÇİ Y.  
22. Yoğun Madde Fiziği Ankara Toplantısı, Turkey, 16 December 2016
- XXXVII. **Tek Tabaka Siyah Fosforda Polaronik Etki**  
MOĞULKOÇ A., MOĞULKOÇ Y., Rudenko A., Katsnelson M.  
22. Yoğun Madde Fiziği Ankara Toplantısı, Turkey, 16 December 2016
- XXXVIII. **Tek tabaka fosforda polaronik etki**  
MOĞULKOÇ A., MOĞULKOÇ Y., Rudenko A., Katsnelson M.  
22. Yoğun Madde Fiziği Ankara Toplantısı, Ankara, Turkey, 16 December 2016
- XXXIX. **First Principles Investigations of Structural Elastic Electronic Thermodynamic and Vibrational Properties of LaCd Compound**  
ÇİFTÇİ Y., ÖNER İ., MOĞULKOÇ Y., TATAR A.  
TURKISH PHYSICAL SOCIETY 32nd INTERNATIONAL PHYSICS CONGRESS, 6 - 09 September 2016

- XL. **Electronic and Optical Properties of Stack Depended Blue Phosphorous**  
MOĞULKOÇ Y., MODARRESİ M., MOĞULKOÇ A., ÇİFTÇİ Y.  
TURKISH PHYSICAL SOCIETY 32nd INTERNATIONAL PHYSICS CONGRESS, Muğla, Turkey, 6 - 09 September 2016
- XLI. **Determination of Accurate Correlation Energy for Monolayer Black Phosphorus**  
MOĞULKOÇ Y., RUDENKO A., KATSNELSON M.  
Physics@FOM Veldhoven 2016, Eindhoven, Netherlands, 19 - 20 January 2016
- XLII. **The first principles study on the TbP compound**  
ÇİFTÇİ Y., MOĞULKOÇ Y., EVECEN M.  
2015 International Conference on Applied Physics, Simulation and Computers (APSAC 2015), Vienna, Austria, 15 - 17 March 2015, pp.163-172
- XLIII. **Antiperovskite Tipte Nikel Zengini MNi<sub>3</sub> (M=Sn, Sb, Pd) Alaşımlarının Elastik ve Elektronik Özelliklerinin İncelenmesi**  
MOĞULKOÇ Y., ÇİFTÇİ Y.  
20. Yoğun Madde Fiziği Ankara Toplantısı, Hacettepe Üniversitesi, Ankara, Turkey, 26 December 2014
- XLIV. **AgRE(RE=Ho, Er, Tm) İntermetalik Alaşımlarının Mekanik ve Titreşimsel Özellikleri**  
MOĞULKOÇ Y., ÇİFTÇİ Y., ÇOLAKOĞLU K., DELİGÖZ E.  
20. Yoğun Madde Fiziği Ankara Toplantısı, Ankara, Turkey, 26 December 2014
- XLV. **RuB<sub>2</sub> Alaşımlarının Elektronik Mekanik ve Optiksel Özellikleri**  
MOĞULKOÇ Y., ÇİFTÇİ Y., AYDIN S., TATAR A.  
20. Yoğun Madde Fiziği Ankara Toplantısı, Ankara, Turkey, 26 December 2014
- XLVI. **Yarı-Heusler KCaP Alaşımlarının Yapısal, Elastik ve Elektronik Özellikleri**  
ÇİFTÇİ Y., MOĞULKOÇ Y.  
20. Yoğun Madde Fiziği Ankara Toplantısı, Ankara, Turkey, 26 December 2014
- XLVII. **Zorlanma Altında Elektronik Yapı Hesabı: "Stanene"**  
MOĞULKOÇ Y., MODARRESİ M.  
20. Yoğun Madde Fiziği Ankara Toplantısı, Ankara, Turkey, 26 December 2014
- XLVIII. **A Spin Density Functional Theory (SDFT) Study: LaMn<sub>2</sub>Ge<sub>2</sub> and LaMn<sub>2</sub>Si<sub>2</sub>**  
MOĞULKOÇ Y.  
HUMBOLDT KOLLEG: GERMAN-TURKISH COOPERATION IN PHYSICS: NEW CHALLENGES IN SCIENCE, 11 - 13 June 2014
- XLIX. **Structural Elastic and Electronic Properties of Nd<sub>3</sub>Te from First Principles**  
MOĞULKOÇ Y., ÇİFTÇİ Y., ÇOLAKOĞLU K.  
Chemical Physics Congress X, Ankara, Turkey, 10 - 12 October 2012
- L. **AgSc bileşiğinin yapısal elastik termodinamik ve fonon özellikleri bir ilk prensipler çalışması**  
ÇOBAN C., ÇİFTÇİ Y., MOĞULKOÇ Y., ÇOLAKOĞLU K.  
18. Yoğun Madde Fiziği Ankara Toplantısı, Ankara, Turkey, 25 November 2011
- LI. **TbMg bileşiğinin yapısal elastik elektronik ve termodinamik özelliklerinin ilk ilkeler yöntemi kullanılarak incelenmesi**  
MOĞULKOÇ Y., ÇİFTÇİ Y., KABAK M., ÇOLAKOĞLU K.  
18. Yoğun Madde Fiziği Ankara Toplantısı, Ankara, Turkey, 25 November 2011
- LII. **Bazı ikili ve üçlü alaşımların ilk ilkeler yöntemlerle incelenmesi**  
MOĞULKOÇ Y., ÇİFTÇİ Y., ÇOLAKOĞLU K.  
17. Yoğun Madde Fiziği Ankara Toplantısı, Ankara, Turkey, 05 November 2010
- LIII. **First principle study on the elastic and thermodynamic properties of Nd<sub>2</sub>Te**  
MOĞULKOÇ Y., ÇİFTÇİ Y., ÇOLAKOĞLU K.  
Turkish Physical Society 27th International Physics Congress, İstanbul, Turkey, 14 - 17 September 2010
- LIV. **AB-INITIO STUDY ON THE STRUCTURAL AND ELASTIC PROPERTIES OF CUBIC STRUCTURES OF NdTe**  
MOĞULKOÇ Y., ÇİFTÇİ Y., ÇOLAKOĞLU K., DELİGÖZ E.  
INTERNATIONAL CONFERENCE "PHYSICS 2010", Baku, Azerbaijan, 30 June - 02 July 2010
- LV. **Turkish Accelerator Center (TAC) Project**  
MOĞULKOÇ Y.

## Supported Projects

Moğulkoç Y., Moğulkoç A., Rudenko A., Modarresi M., TUBITAK Project, Magnetism and Spin-Orbit Effects in Heavy Two-Dimensional Materials, 2023 - 2025

Moğulkoç Y., Moğulkoç A., Horizon Europe Project, 2d Manyetik Bellekler: Ölçeklenebilir Büyüme Ve Hibrit Elektrik Çalışması (Proje no: 221N400), 2022 - 2025

Moğulkoç Y., Project Supported by Higher Education Institutions, Development of Gas Sensor Using Next Generation Two-Dimensional Materials, 2023 - 2024

Moğulkoç Y., Project Supported by Other Official Institutions, Yeni Nesil İki-boyutlu Ga<sub>2</sub>XY (X/Y=S, Se, Te) Malzemesinin Yarımetal ve Yarıiletkenlerle Oluşturulan Hetero-yapılarının Mekanik ve Optoelektronik Özelliklerinin Belirlenmesi , 2021 - 2022

Moğulkoç A., Moğulkoç Y., Modarresi M., Rudenko A., TUBITAK Project, İki-Boyutlu Yapılarda Kuantum Magnetizması: İki-Boyutlu Ferromagnetlerin Magnetik Özelliklerinin Yoğunluk Fonksiyoneli Teorisi ile İncelenmesi, 2020 - 2022

MOĞULKOÇ Y., MOĞULKOÇ A., Project Supported by Higher Education Institutions, Simülasyon ve Nümerik Hesaplamaların Yapılması İçin Yüksek Performanslı Bilgisayar Merkezinin Kurulması, 2017 - 2020

Moğulkoç Y., Kabak M., Project Supported by Other Official Institutions, Bazı Alaşımların Temel Fiziksel Özelliklerinin Yoğunluk Fonksiyoneli Teorisi (DFT) Kullanılarak İlk İlkel Yöntemlerle İncelenmesi Proje no 12B4343020, 2012 - 2013

## Patent

Moğulkoç Y., BİR AKILLI AKUSTİK ALGILAYICI SİSTEMİ, Patent, CHAPTER H Electricity, The Invention Registration Number: 2019/18290 , Standard Registration, 2024

## Student Project

R & D Project, Investigation of Optoelectronic Properties of Janus Two-Dimensional XICl (X= Be, Mg, Ca) Materials, Ankara University, Mühendislik Fakültesi, Fizik Mühendisliği Bölümü, Turkey, 2023 - Continues

Other, Investigation of Band Alignment in Heterostructured Two Dimensional Materials, Ankara University, Mühendislik Fakültesi, Yazılım Mühendisliği Bölümü, Turkey, 2023 - Continues

## Scientific Refereeing

Micro and nanostructures, SCI Journal, July 2024

Chinese Journal of Physics , SCI Journal, July 2024

PHYSICA SCRIPTA, SCI Journal, July 2024

OPTICAL AND QUANTUM ELECTRONICS, SCI Journal, July 2024

COMPUTATIONAL MATERIALS SCIENCE, SCI Journal, July 2024

Turkish Journal of Science & Technology, Other Indexed Journal, June 2024

JOURNAL OF PHYSICS AND CHEMISTRY OF SOLIDS, SCI Journal, June 2024

MATERIALS SCIENCE IN SEMICONDUCTOR PROCESSING, SCI Journal, May 2024

Surfaces and Interfaces, SCI Journal, May 2024

PHYSICAL CHEMISTRY CHEMICAL PHYSICS, SCI Journal, May 2024

ADVANCED THEORY AND SIMULATIONS, SCI Journal, April 2024

Next Nanotechnology, Other Indexed Journal, April 2024

CHEMICAL PHYSICS LETTERS, SCI Journal, April 2024

Nanoscale Advances, SCI Journal, April 2024  
ACS APPLIED NANO MATERIALS, SCI Journal, March 2024  
Micro and Nanostructures, SCI Journal, March 2024  
ACS APPLIED ELECTRONIC MATERIALS, SCI Journal, March 2024  
MATERIALS RESEARCH EXPRESS, SCI Journal, March 2024  
MATERIALS TODAY COMMUNICATIONS, SCI Journal, March 2024  
JOURNAL OF MOLECULAR MODELING, SCI Journal, March 2024  
PHYSICA E: LOW-DIMENSIONAL SYSTEMS AND NANOSTRUCTURES, SCI Journal, March 2024  
ACS APPLIED ELECTRONIC MATERIALS, SCI Journal, March 2024  
Surfaces and Interfaces, SCI Journal, February 2024  
MICRO AND NANOSTRUCTURES, SCI Journal, February 2024  
COMPUTATIONAL AND THEORETICAL CHEMISTRY, SCI Journal, February 2024  
SOLID STATE COMMUNICATIONS, SCI Journal, February 2024  
JOURNAL OF MOLECULAR MODELING, SCI Journal, February 2024  
CUMHURIYET SCIENCE JOURNAL, Other Indexed Journal, February 2024  
ACS APPLIED NANO MATERIALS, SCI Journal, February 2024  
MATERIALS TODAY COMMUNICATIONS, SCI Journal, February 2024  
SOLID STATE COMMUNICATIONS, SCI Journal, January 2024  
SUPERLATTICES AND MICROSTRUCTURES, SCI Journal, January 2024  
MATERIALS ADVANCES, SCI Journal, January 2024  
PHYSICA SCRIPTA, SCI Journal, January 2024  
ACS APPLIED NANO MATERIALS, SCI Journal, January 2024  
Results in Physics, National Scientific Refreed Journal, December 2023  
OPTICS AND LASER TECHNOLOGY, SCI Journal, December 2023  
PHYSICA B: CONDENSED MATTER, SCI Journal, December 2023  
Nanoscale Advances, SCI Journal, December 2023  
PHYSICA B: CONDENSED MATTER, SCI Journal, December 2023  
MATERIALS SCIENCE IN SEMICONDUCTOR PROCESSING, SCI Journal, November 2023  
Gazi University Journal of Science Part A: Engineering and Innovation, National Scientific Refreed Journal, November 2023  
Gazi University Journal of Science Part A: Engineering and Innovation, National Scientific Refreed Journal, November 2023  
Surfaces and Interfaces, SCI Journal, October 2023  
PHYSICA B: CONDENSED MATTER, SCI Journal, October 2023  
CHEMICAL PHYSICS LETTERS, SCI Journal, October 2023  
CHEMICAL PHYSICS LETTERS, SCI Journal, October 2023  
PHYSICA B: CONDENSED MATTER, SCI Journal, October 2023  
CHEMICAL PHYSICS, SCI Journal, October 2023  
NEW JOURNAL OF PHYSICS, SCI Journal, October 2023  
CHEMICAL PHYSICS, SCI Journal, September 2023  
ADVANCED THEORY AND SIMULATIONS, SCI Journal, September 2023  
OPTICAL AND QUANTUM ELECTRONICS, SCI Journal, September 2023  
CHEMICAL PHYSICS LETTERS, SCI Journal, August 2023  
MICRO AND NANOSYSTEMS, Other Indexed Journal, August 2023  
Surfaces and Interfaces, SCI Journal, August 2023  
GAZI UNIVERSITY JOURNAL OF SCIENCE, National Scientific Refreed Journal, August 2023  
ADVANCED THEORY AND SIMULATIONS, SCI Journal, August 2023  
CERAMICS INTERNATIONAL, SCI Journal, August 2023  
Nanoscale Advances, SCI Journal, August 2023  
JOURNAL OF PHYSICS AND CHEMISTRY OF SOLIDS, SCI Journal, August 2023  
ADVANCED THEORY AND SIMULATIONS, SCI Journal, July 2023

PHYSICA E: LOW-DIMENSIONAL SYSTEMS AND NANOSTRUCTURES, SCI Journal, July 2023  
PHYSICA B: CONDENSED MATTER, SCI Journal, July 2023  
JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS, SCI Journal, June 2023  
JOURNAL OF PHYSICS CONDENSED MATTER, SCI Journal, June 2023  
CERAMICS INTERNATIONAL, SCI Journal, June 2023  
CHEMICAL PHYSICS, SCI Journal, June 2023  
SCIENTIFIC REPORTS, SCI Journal, June 2023  
APPLIED SURFACE SCIENCE, SCI Journal, January 2023  
SURFACE SCIENCE, SCI Journal, January 2023  
CHEMICAL PHYSICS, SCI Journal, January 2023  
CHEMICAL PHYSICS, SCI Journal, December 2022  
APPLIED SURFACE SCIENCE, SCI Journal, December 2022  
APPLIED SURFACE SCIENCE, SCI Journal, December 2022  
MATERIALS TODAY COMMUNICATIONS, SCI Journal, December 2022  
MATERIALS SCIENCE IN SEMICONDUCTOR PROCESSING, SCI Journal, November 2022  
CHEMICAL PHYSICS LETTERS, SCI Journal, November 2022  
Optics and Laser Technology , SCI Journal, October 2022  
SOLID STATE COMMUNICATIONS, SCI Journal, October 2022  
MATERIALS TODAY COMMUNICATIONS, SCI Journal, October 2022  
APPLIED SURFACE SCIENCE, SCI Journal, October 2022  
MATERIALS SCIENCE IN SEMICONDUCTOR PROCESSING, SCI Journal, October 2022  
MATERIALS SCIENCE IN SEMICONDUCTOR PROCESSING, SCI Journal, September 2022  
APPLIED SURFACE SCIENCE, SCI Journal, September 2022  
MATERIALS TODAY COMMUNICATIONS, SCI Journal, August 2022  
CHEMICAL PHYSICS, SCI Journal, August 2022  
PHYSICAL CHEMISTRY CHEMICAL PHYSICS, SCI Journal, August 2022  
MATERIALS TODAY COMMUNICATIONS, SCI Journal, July 2022  
CHEMICAL PHYSICS, SCI Journal, July 2022  
MATERIALS TODAY COMMUNICATIONS, SCI Journal, June 2022  
CHEMICAL PHYSICS LETTERS, SCI Journal, June 2022  
APPLIED SURFACE SCIENCE, SCI Journal, May 2022  
MATERIALS SCIENCE IN SEMICONDUCTOR PROCESSING, SCI Journal, May 2022  
PHYSICA B: CONDENSED MATTER, SCI Journal, April 2022  
CHEMICAL PHYSICS, SCI Journal, April 2022  
APPLIED SURFACE SCIENCE, SCI Journal, April 2022  
APPLIED SURFACE SCIENCE, SCI Journal, April 2022  
APPLIED SURFACE SCIENCE, SCI Journal, March 2022  
APPLIED SURFACE SCIENCE, SCI Journal, March 2022  
PHYSICA B: CONDENSED MATTER, SCI Journal, March 2022  
MATERIALS SCIENCE IN SEMICONDUCTOR PROCESSING, SCI Journal, March 2022  
MATERIALS TODAY COMMUNICATIONS, SCI Journal, March 2022  
MATERIALS TODAY COMMUNICATIONS, SCI Journal, February 2022  
PHYSICA B: CONDENSED MATTER, SCI Journal, February 2022  
INTERNATIONAL JOURNAL OF QUANTUM CHEMISTRY, SCI Journal, February 2022  
ECS JOURNAL OF SOLID STATE SCIENCE AND TECHNOLOGY, SCI Journal, February 2022  
APPLIED SURFACE SCIENCE, SCI Journal, February 2022  
INTERNATIONAL JOURNAL OF QUANTUM CHEMISTRY, SCI Journal, February 2022  
SOLID STATE COMMUNICATIONS, SCI Journal, February 2022  
MATERIALS ADVANCES, SCI Journal, January 2022  
TUBITAK Project, 1001 - Program for Supporting Scientific and Technological Research Projects, Ankara University, Turkey, March 2019

## Scientific Consultations

TÜBİTAK, Scientific Consultancy, Ankara University, Mühendislik Fakültesi, Fizik Mühendisliği Bölümü, Turkey, 2022 - Continues

## Mobility Activity

Other, Guest Researcher, Katholieke Universiteit Nijmegen, Netherlands, 2023 - 2023

Other, Scientific Research, Universitat Autònoma de Barcelona, Spain, 2022 - 2022

## Metrics

Publication: 106

Citation (WoS): 878

Citation (Scopus): 903

H-Index (WoS): 19

H-Index (Scopus): 19

## Congress and Symposium Activities

9th International Conference on Materials Science and Nanotechnology for Next Generation, Invited Speaker, Ankara, Turkey, 2022

## Invited Talks

Determining Ground State Magnetic Properties of  $\text{Fe}_3\text{GeTe}_2$  by using ab-initio methods, Workshop, Bilkent University, Turkey, June 2024

İki Boyutlu Manyetik Heteroyapılar ve Spintronik Uygulamaları, Conference, Ankara Üniversitesi, Turkey, May 2024

Kadının Bilimdeki Rolü, Conference, Ankara Üniversitesi, Turkey, March 2024

Theoretical modeling of 2D ferromagnetic material, Conference, 9th International Conference on Materials Science and Nanotechnology for Next Generation, Turkey, September 2022

## Scholarships

TÜBİTAK-2219 Yurt Dışı Doktora Sonrası Araştırmacı Bursu, TUBİTAK, 2015 - 2016

Türk Fizik Vakfı Başarı Bursu, Other Government Agencies, 2002 - 2007

## Awards

Moğulkoç Y., Ankara Üniversitesi Mühendislik Fakültesi 2023 Yılı Akademik Başarı Ödülü, Ankara Üniversitesi Mühendislik Fakültesi, January 2024

Moğulkoç Y., Çağlayan R., Poster Ödülü, Gazi Üniversitesi Fen Fakültesi Fizik Bölümü, October 2023

Moğulkoç Y., Ankara Üniversitesi Mühendislik Fakültesi Fizik Mühendisliği Bölümü Birinciliği, Ankara Üniversitesi Mühendislik Fakültesi, July 2006

## **Representation and Promotion Activities**

Institutional Representation, TEKNOFEST, Turkey, Samsun, 2022 - 2022

Institutional Representation, TEKNOFEST, Azerbaijan, Baku, 2022 - 2022

## **Non Academic Experience**

Technology Development Zone, ANKARA ÜNİVERSİTESİ TEKNOLOJİ GELİŞTİRME BÖLGESİ YÖNETİCİ A.Ş., ANKARA ÜNİVERSİTESİ TEKNOLOJİ GELİŞTİRME BÖLGESİ YÖNETİCİ A.Ş.

Other, Helmholtz-Zentrum Dresden Rossendorf-Ion Beam Physics and Materials Research, Ion Beam Physics and Materials Research