

Prof. ERHAN ESER

Personal Information

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International Researcher IDs

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ScopusID: 57196987578

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Education Information

Doctorate, Tokat Gaziosmanpaşa University, Fen Bilimleri Enstitüsü, Fizik (Dr), Turkey 2005 - 2010

Postgraduate, Tokat Gaziosmanpaşa University, Fen Bilimleri Enstitüsü, Fizik (YI) (Tezli), Turkey 2002 - 2006

Postgraduate, Van Yüzüncü Yil University, Sosyal Bilimler Enstitüsü, ORTAÖĞRETİM FEN VE MATEMATİK ALANLAR EĞİTİMİ, Turkey 2002 - 2004

Undergraduate, Tokat Gaziosmanpaşa University, Fen-Edebiyat Fakültesi, Fizik Bölümü, Turkey 1998 - 2002

Foreign Languages

English, B2 Upper Intermediate

Dissertations

Doctorate, Nükleer gama rezonans olayında sıcaklık değişiminin Debye-Waller faktörü üzerine etkileri, Tokat Gaziosmanpaşa University, Fen Bilimleri Enstitüsü, Fizik (Dr), 2010

Postgraduate, Bazı deforme ağır çekirdeklerin enerji seviye yoğunluk parametresinin incelenmesi, Tokat Gaziosmanpaşa University, Fen Bilimleri Enstitüsü, Fizik (YI) (Tezli), 2006

Research Areas

Physics

Academic Titles / Tasks

Professor, Ankara Hacı Bayram Veli University, Polatlı Faculty of Arts and Sciences, Department of Physics, 2019 - Continues

Associate Professor, Ankara Hacı Bayram Veli University, Polatlı Faculty of Arts and Sciences, Department of Physics, 2018 - 2019

Associate Professor, Gazi University, Polatlı Fen-Edebiyat Fakültesi, Fizik Bölümü, 2013 - 2018

Associate Professor, Tokat Gaziosmanpaşa University, Fen-Edebiyat Fakültesi, Fizik Bölümü, 2012 - 2013

Assistant Professor, Tokat Gaziosmanpaşa University, Fen-Edebiyat Fakültesi, Fizik Bölümü, 2010 - 2012
Research Assistant, Tokat Gaziosmanpaşa University, Fen-Edebiyat Fakültesi, Fizik Bölümü, 2003 - 2010

Academic and Administrative Experience

Ankara Hacı Bayram Veli University, 2018 - Continues
Gazi University, 2016 - 2018
Gazi University, 2015 - 2016
Gazi University, 2013 - 2014
Tokat Gaziosmanpaşa University, 2011 - 2012

Courses

NÜKLEER FİZİK II, Undergraduate, 2024 - 2025, 2023 - 2024, 2022 - 2023
İŞ SAĞLIĞI VE GÜVENLİĞİ II, Undergraduate, 2024 - 2025, 2023 - 2024, 2022 - 2023
FİZİKTE MATEMATİKSEL YÖNTEMLER II, Undergraduate, 2024 - 2025, 2023 - 2024, 2022 - 2023
FİZİK II, Undergraduate, 2024 - 2025, 2023 - 2024, 2022 - 2023
PHYSICS I, Undergraduate, 2024 - 2025, 2023 - 2024, 2022 - 2023
İŞ SAĞLIĞI VE GÜVENLİĞİ I, Undergraduate, 2024 - 2025, 2023 - 2024, 2022 - 2023
NÜKLEER FİZİK I, Undergraduate, 2024 - 2025, 2023 - 2024, 2022 - 2023
ARAŞTIRMA TEKNİKLERİ VE YAYIN ETİĞİ, Postgraduate, 2024 - 2025
FİZİKTE MATEMATİKSEL YÖNTEMLER I, Postgraduate, 2024 - 2025
FİZİKTE MATEMATİKSEL YÖNTEMLER I, Undergraduate, 2024 - 2025, 2023 - 2024, 2022 - 2023
ARAŞTIRMA PROJESİ I, Undergraduate, 2023 - 2024
RADYASYONDAN KORUNMA FİZİĞİ, Undergraduate, 2022 - 2023
ARAŞTIRMA PROJESİ II, Undergraduate, 2023 - 2024
BİLGİSAYAR II, Undergraduate, 2022 - 2023, 2021 - 2022
BİLGİSAYAR I, Undergraduate, 2022 - 2023
NÖTRON FİZİĞİ, Undergraduate, 2022 - 2023, 2021 - 2022
NÜKLEER RADYASYON DEDEKTÖRLERİ, Undergraduate, 2022 - 2023
NÜKLEER TIP FİZİĞİ, Undergraduate, 2020 - 2021
SAĞLIK FİZİĞİ, Undergraduate, 2020 - 2021
BİYOFİZİK, Undergraduate, 2018 - 2019

Advising Theses

ESER E., Bazı kalay izotoplarının nötron yoğunluk dağılımlarının incelenmesi, Postgraduate, A.YALÇIN(Student), 2013
ESER E., Radyoterapide kullanılan yüksek enerjili foton ışınları için karbon fiber masanın doz dağılımına etkisinin belirlenmesi, Postgraduate, G.GÜRSOY(Student), 2013
ESER E., Kurşun-208 çekirdeğinin nötron ve proton yoğunluk dağılımlarının incelenmesi, Postgraduate, M.GÖKBULUT(Student), 2012

Published journal articles indexed by SCI, SSCI, and AHCI

- Analytical study of the heat capacity and entropy of ZrM ($M=N$ and C) compounds**
Gökbulut M., Koç H., BÖLÜKDEMİR M. H., ESER E.
International Journal of Modern Physics B, vol.38, no.21, 2024 (SCI-Expanded)
- Heat Capacity of Layered Perovskite Compounds: $EsBaCuFeO_5$ ($Es = Ho, Gd, \text{ and } Yb$)**

- Koç H., BÖLÜKDEMİR M. H., ESER E.
Physica Status Solidi (B) Basic Research, vol.259, no.11, 2022 (SCI-Expanded)
- III. **Low-temperature heat capacities for EMO₄ (E=Mg, Sr, Ba) substances formed in nuclear fuel waste glasses**
Koç H., Köse O., ESER E.
Progress in Nuclear Energy, vol.143, 2022 (SCI-Expanded)
- IV. **Study on specific heat capacity and thermal conductivity of uranium nitride**
Gokbulut M., Gursoy G., Asci S., Eser E.
KERNTECHNIK, vol.86, no.6, pp.400-403, 2021 (SCI-Expanded)
- V. **Theoretical study of specific heat capacity of thermoelectric half-Heusler XNiSb (X = Sc, Tm) compounds**
ESER E., Koç H.
Philosophical Magazine Letters, vol.101, no.4, pp.154-159, 2021 (SCI-Expanded)
- VI. **A study on heat capacity of oxide and nitride nuclear fuels by using Einstein-Debye approximation**
ESER E., Duyuran B., BÖLÜKDEMİR M. H., Koç H.
Nuclear Engineering and Technology, vol.52, no.6, pp.1208-1212, 2020 (SCI-Expanded)
- VII. **Analytical investigation of the lineshift and linewidth for the R-1 line in YAG: Cr³⁺ crystals**
KOÇ H., ESER E.
PHYSICA B-CONDENSED MATTER, vol.574, 2019 (SCI-Expanded)
- VIII. **Analytical solution of the Coulomb potential for spherical nuclei**
KOÇ H., ESER E., SELAM C.
MODERN PHYSICS LETTERS A, vol.34, no.29, 2019 (SCI-Expanded)
- IX. **Investigation of structural, half-metallic and elastic properties of a new full-Heusler compound- Ir₂MnSi**
ÖZDEMİR E. G., ESER E., MERDAN Z.
CHINESE JOURNAL OF PHYSICS, vol.56, no.4, pp.1551-1558, 2018 (SCI-Expanded)
- X. **Investigation of the effects of a carbon-fiber tabletop on the surface dose and attenuation dose for megavoltage photon beams**
Gursoy G., ESER E., Yigitoglu I., Koc H., Kahraman F. C., Yamcicier S.
INTERNATIONAL JOURNAL OF RADIATION RESEARCH, vol.16, no.2, pp.235-241, 2018 (SCI-Expanded)
- XI. **Full analytical evaluation of the line shift and line width of ions in solids for Raman processes**
ESER E., Koc H.
LUMINESCENCE, vol.33, no.2, pp.433-437, 2018 (SCI-Expanded)
- XII. **Determination of natural radioactivity levels in soil and travertine of the region of Tokat and Sivas, Turkey**
Yigitoglu I., ESER E., Cetin B., Kilicaslan S., Oner F., AKKURT İ., GURSOY G., YAMCICIER S., KOC H.
ARABIAN JOURNAL OF GEOSCIENCES, vol.11, no.6, 2018 (SCI-Expanded)
- XIII. **Calculation of thermophysical properties of copper compounds in CuCl production cycle**
BÖLÜKDEMİR M. H., KOC H., ESER E.
JOURNAL OF PHYSICS AND CHEMISTRY OF SOLIDS, vol.112, pp.258-261, 2018 (SCI-Expanded)
- XIV. **A general formula for calculation of the two-dimensional Franck-Condon factors**
Koc H., Mamedov B. A., ESER E.
CANADIAN JOURNAL OF PHYSICS, vol.95, no.4, pp.340-345, 2017 (SCI-Expanded)
- XV. **Investigations of temperature dependences of electrical resistivity and specific heat capacity of metals**
ESER E., KOÇ H.
PHYSICA B-CONDENSED MATTER, vol.492, pp.7-10, 2016 (SCI-Expanded)
- XVI. **Estimation of the heat capacity of CdTe semiconductor**
KOÇ H., ESER E.
MODERN PHYSICS LETTERS B, vol.30, no.4, 2016 (SCI-Expanded)
- XVII. **ESTIMATIONS OF HEAT CAPACITIES FOR ACTINIDE DIOXIDE: UO₂, NpO₂, ThO₂, AND PuO₂**

- ESER E., Koc H., Gokbulut M., GURSOY G.
NUCLEAR ENGINEERING AND TECHNOLOGY, vol.46, no.6, pp.863-868, 2014 (SCI-Expanded)
- XVIII. **INVESTIGATIONS OF THE DENSITY DISTRIBUTIONS OF Pb-208 WITH THE THOMAS-FERMI METHOD**
Gokbulut M., Koc H., ESER E., Yigitoglu I., Mamedov B. A.
MODERN PHYSICS LETTERS A, vol.28, no.23, 2013 (SCI-Expanded)
- XIX. **Use of the integer and non-integer n-dimensional Debye functions in computing thermal expansivity, with applications to Si and Ge semiconductors**
ESER E., Koc H., Mamedov B. A.
JOURNAL OF PHYSICS AND CHEMISTRY OF SOLIDS, vol.73, no.1, pp.35-38, 2012 (SCI-Expanded)
- XX. **Estimation of the Heat Capacity of Some Semiconductor Compounds Using n-Dimensional Debye Functions**
ESER E., Koc H., Mamedov B. A., Askerov I. M.
INTERNATIONAL JOURNAL OF THERMOPHYSICS, vol.32, no.10, pp.2163-2169, 2011 (SCI-Expanded)
- XXI. **Calculation of heat capacity of the nuclear fuels UO₂ and NpO₂ using integer and non-integer n-dimensional Debye functions**
Koç H., ESER E., Mamedov B.
Nuclear Engineering and Design, vol.241, no.9, pp.3678-3682, 2011 (SCI-Expanded)
- XXII. **The theoretical nuclear level density parameters of some deformed target radioisotopes W181-187 and Hg196-204 used on the accelerator-driven systems**
OKUDUCU Ş., Akti N. N., ESER E.
ANNALS OF NUCLEAR ENERGY, vol.38, no.8, pp.1769-1774, 2011 (SCI-Expanded)
- XXIII. **Investigation of the symmetry properties and level density parameters of some superdeformed light even-even nuclei**
Sonmezoglu S., OKUDUCU Ş., ESER E.
ANNALS OF NUCLEAR ENERGY, vol.37, no.12, pp.1735-1741, 2010 (SCI-Expanded)
- XXIV. **Accurate Evaluation of the Specific Heat Capacity of Solids and its Application to MgO and ZnO Crystals**
Mamedov B. A., ESER E., Koc H., Askerov I. M.
INTERNATIONAL JOURNAL OF THERMOPHYSICS, vol.30, no.3, pp.1048-1054, 2009 (SCI-Expanded)
- XXV. **Analysis of the nuclear level-density parameters of some large deformed odd-a and odd-odd nuclei in the region of rare earth elements**
Okuducu S., ESER E., Sonmezoglu S.
NUCLEAR SCIENCE AND ENGINEERING, vol.154, no.3, pp.374-381, 2006 (SCI-Expanded)
- XXVI. **Calculation of nuclear level density parameters of some deformed light nuclei using collective excitation modes**
Okuducu S., Sonmezoglu S., ESER E.
PHYSICAL REVIEW C, vol.74, no.3, 2006 (SCI-Expanded)

Articles Published in Other Journals

- I. **Effect of Pulse Width and Intensity on Cell Death in Reversible Electroporation of Cancerous Cells**
ALKIŞ M. E., ALAN Y., ESER E.
Bitlis Eren Üniversitesi Fen Bilimleri Dergisi, vol.13, no.3, pp.530-536, 2024 (Peer-Reviewed Journal)
- II. **Gamma radiation shielding parameters of Bismuth Germanate glasses with different densities using PHITS Monte Carlo code**
BÖLÜKDEMİR M. H., ESER E., KOÇ H.
Levantine Journal of Applied Sciences, vol.4, no.1, pp.1-11, 2024 (Peer-Reviewed Journal)
- III. **New Approximate Formula for the Arrhenius Temperature Integral by Using Incomplete Gamma Functions**
ESER E., KOÇ H.

Bitlis Eren University Journal of Science and Technology, vol.9, no.1, pp.27-31, 2019 (Peer-Reviewed Journal)

- IV. **Calculation of neutron density distributions of Tin Isotopes using the Thomas Fermi approximation**
ESER E., Yalçın A., BÖLÜKDEMİR M. H., Gökbulut M., KOÇ H.
International Journal of Modern Engineering Research, vol.6, no.12, pp.59-65, 2016 (Peer-Reviewed Journal)

Refereed Congress / Symposium Publications in Proceedings

- I. **Multinomial Genişleme Teoremi Kullanılarak Doppler Genişleme Fonksiyonunun Analitik İncelenmesi**
KOÇ H., ESER E., KALKAN Y.
4th International Scientific Research Congress (UBAK), 14 - 17 February 2019
- II. **Debye-Einstein Fonksiyonu Kullanılarak $MgMnO_4$ ün Isı Kapasitesinin Değerlendirilmesi**
ESER E., KOÇ H., KALKAN Y.
4th International Scientific Research Congress (UBAK), 14 - 17 February 2019
- III. **Franck-Condon Faktörünün Hesaplanması ve S₂O Molekülüne Uygulanması**
KOÇ H., ESER E.
International Science and Academic Congress'xx18 (INSAC'xx18), 8 - 09 December 2018
- IV. **Multinomial Genişleme Teoremini kullanarak Voigt Fonksiyonunun Analitik İncelenmesi**
ESER E., KOÇ H.
International Science and Academic Congress'xx18 (INSAC'xx18), 8 - 09 December 2018
- V. **Determination of the full energy peak efficiency of HPGe detector using Monte Carlo simulation**
UYAR E., BÖLÜKDEMİR M. H., ESER E.
TESNAT-2018, Antalya, Turkey, 20 - 22 April 2018
- VI. **Calculation specific heat capacity of Uranium Nitride nuclear fuel**
ESER E., Duyuran B., KOÇ H., BÖLÜKDEMİR M. H.
TESNAT-2018, Antalya, Turkey, 20 - 22 April 2018
- VII. **Determination of Natural Radioactivity Levels in Soil and Travertine of the Region of Tokat and Sivas, Turkey**
YİĞİTOĞLU İ., ESER E., ERTAN B., KILIÇASLAN S., ÖNER F., AKKURT İ., GÜRSOY G., YAMÇICIER S., KOÇ H.
4th International Conference on Computational and Experimental Sciences and Engineering (ICCESN 2017), Antalya, Turkey, 4 - 08 October 2017
- VIII. **Physics of plasma focus device for nuclear fusion studies**
BÖLÜKDEMİR M. H., ESER E.
NSP2017-10. International workshop on nuclear structure properties, Karabük, Turkey, 20 - 22 September 2017
- IX. **Investigation of Half-Metallicity of Full-Heusler Compound - Ir₂MnSi**
ÖZDEMİR E. G., MERDAN Z., ESER E.
TÜRK FİZİK DERNEĞİ 33. ULUSLARARASI FİZİK KONGRESİ, Muğla, Turkey, 6 - 10 September 2017
- X. **An Analysis of Dose Distributions for Some Biomaterials and Solid Water Phantom**
BÖLÜKDEMİR M. H., AYAN S., ESER E.
IX. International Workshop on Nuclear Structure Properties, 1 - 03 September 2016
- XI. **Analytical Evaluation of the Coulomb Potential for Spherical Nuclei**
ESER E., KOÇ H., BÖLÜKDEMİR M. H.
IX. International Workshop on Nuclear Structure Properties, 1 - 03 September 2016
- XII. **Calculation of the Debye-Waller factor of crystals using the n-dimensional Debye function involving binomial coefficients and incomplete gamma functions**
ESER E., Askerov I. M., Mamedov B. A.
International Conference on Exotic Atoms and Related Topics (EXA) / 9th International Conference on Low Energy Antiproton Physics (LEAP), Vienna, Austria, 15 - 19 September 2008, vol.194, pp.381-389

Supported Projects

ESER E., Project Supported by Higher Education Institutions, Tokat İli ve Çevresinde Bulunan Mermer Yatakları ve Topraklarda Radyasyonun Belirlenmesi, 2012 - 2013

Activities in Scientific Journals

Levantine Journal of Applied Sciences, First Editor, 2022 - Continues

Metrics

Publication: 42

Citation (WoS): 109

Citation (Scopus): 174

H-Index (WoS): 5

H-Index (Scopus): 7