

Asst. Prof. BURCU EROL

Personal Information

Office Phone: [+90 464 223 6126](tel:+904642236126) Extension: 1765

Fax Phone: [+90 464 223 6126](tel:+904642236126)

Email: burcu.karayunus@erdogan.edu.tr

Web: <https://avesis.erdogan.edu.tr/burcu.karayunus>

Address: Recep Tayyip Erdoğan Üniversitesi Fen Edebiyat Fakültesi Fizik Bölümü Zihni Derin Yerleşkesi Fener Rize



International Researcher IDs

ORCID: 0000-0001-8006-8918

Yoksis Researcher ID: 192986

Education Information

Doctorate, Karadeniz Technical University, Fen Bilimleri Enstitüsü, Fizik, Turkey 2013 - 2020

Postgraduate, Recep Tayyip Erdogan University, Fen Bilimleri Enstitüsü, Fizik (YI), Turkey 2010 - 2013

Undergraduate, Suleyman Demirel University, Fen Edebiyat Fakültesi, Fizik Bölümü, Turkey 2004 - 2008

Foreign Languages

English, C1 Advanced

Dissertations

Doctorate, Investigation of Cross Sections and Barrier Distribution Functions in Heavy-ion Fusion Reactions by Coupled Channel Method, Karadeniz Technical University, Fen Fakültesi, Fizik, 2020

Postgraduate, 6 VE 18 MV ENERJİLİ FOTONLARIN SUDAKI DERİNDÖZLARININ PENELOPE MC PROGRAMI İLE HESABIVE ÖLÇÜMÜ, Recep Tayyip Erdogan University, Fen Edebiyat Fakültesi, Fizik Bölümü, 2013

Research Areas

Physics, Nuclear physics, General Nuclear Reactions, Properties of Nuclei, Nuclear Structure, Nuclear Engineering and Nuclear Energy Studies, Special nuclear reactions, Experimental Methods of Particle and Nuclear Physics, Radioactive decay and in-beam spectroscopy, Basic Particles and Areas, Properties of special particles, Composites, nanocomposites, Characterization of Polymers, Polymeric Materials, Natural Sciences

Academic Titles / Tasks

Assistant Professor, Recep Tayyip Erdogan University, Fen Edebiyat Fakültesi, Fizik Bölümü, 2023 - Continues

Research Assistant PhD, Recep Tayyip Erdogan University, Fen Edebiyat Fakültesi, Fizik Bölümü, 2009 - Continues

Courses

Mühendislik Fiziği II, Undergraduate, 2023 - 2024
Nümerik Analiz, Undergraduate, 2023 - 2024
Sayısal Çözümleme, Undergraduate, 2023 - 2024
Temel Bilgi Teknolojileri I, Undergraduate, 2021 - 2022

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Thermal Conductivity and Phase-Change Properties of Boron Nitride–Lead Oxide Nanoparticle-Doped Polymer Nanocomposites**
Ortaç B., Mutlu S., BAŞKAN T., Savaskan Yılmaz S., YILMAZ A. H., EROL B.
Polymers, vol.15, no.10, 2023 (SCI-Expanded)
- II. **Exhaustive Theoretical Investigation of Phonon Number Alteration, Fusion Cross-Sections and Barrier Distributions for (30)Si+(90,92,94,96)Zr Reactions via Energy Dependent Woods-Saxon Potential and Coupled Channel Model**
Cinan Z. M., Erol B., Başkan T., Yılmaz A. H.
ACTA PHYSICA POLONICA, SERIES B, vol.53, no.3, pp.1-20, 2022 (SCI-Expanded)
- III. **Radiation Shielding Tests of Crosslinked Polystyrene-b-Polyethyleneglycol Block Copolymers Blended with Nanostructured Selenium Dioxide and Boron Nitride Particles**
Cinan Z. M., Erol B., Başkan T., Mutlu S., Ortaç B., Savaşkan Yılmaz S., Yılmaz A. H.
NANOMATERIALS, vol.12, no.3, pp.1-31, 2022 (SCI-Expanded)
- IV. **Gamma irradiation, thermal conductivity, and phase change tests of the cement-hyperbranched poly amino-ester-block-poly cabrolactone-polyurathane plaster-lead oxide and arsenic oxide composite for development of radiation shielding material**
CİNAN Z. M., BAŞKAN T., EROL B., Mutlu S., Misirlioglu Y., Yılmaz S. S., YILMAZ A. H.
INTERNATIONAL JOURNAL OF ENERGY RESEARCH, vol.45, no.15, pp.20729-20762, 2021 (SCI-Expanded)
- V. **Heavy-Ion Fusion Reaction Calculations: Establishing the Theoretical Frameworks for In-111 Radionuclide over the Coupled Channel Model**
CİNAN Z. M., EROL B., BAŞKAN T., Yılmaz A. H.
ENERGIES, vol.14, no.24, 2021 (SCI-Expanded)
- VI. **Gamma Irradiation and the Radiation Shielding Characteristics: For the Lead Oxide Doped the Crosslinked Polystyrene-b-Polyethyleneglycol Block Copolymers and the Polystyrene-b-Polyethyleneglycol-Boron Nitride Nanocomposites**
CİNAN Z. M., EROL B., BAŞKAN T., MUTLU S., SAVAŞKAN YILMAZ S., YILMAZ A. H.
POLYMERS, vol.13, no.19, 2021 (SCI-Expanded)
- VII. **INVESTIGATING MEDIUM AND HEAVY MASS HEAVY-ION FUSION REACTIONS AND BARRIER DISTRIBUTIONS WITH COUPLED-CHANNEL ANALYZES**
Erol B., Cinan Z. M., Başkan T., Yılmaz A. H.
ACTA PHYSICA POLONICA B, vol.52, no.9, pp.1117-1145, 2021 (SCI-Expanded)

Articles Published in Other Journals

- I. **Theoretical Inspecting of At-211 Radionuclide via Coupled-Channel Model for Fusion Reaction of Stable Nuclei**
Cinan Z. M., Baskan T., Erol B., Yılmaz A. H.
ATOM INDONESIA, vol.47, no.3, pp.163-172, 2021 (ESCI)
- II. **Treatise of Angular Distributions of 3He Elastic Scattering from Stable Selenium Isotopes**
CİNAN Z. M., YILMAZ A. H., EROL B.

Bitlis Eren University Journal of Science and Technology, vol.9, no.2, pp.99-103, 2019 (Peer-Reviewed Journal)

III. **The Large Angle Quasi-Elastic Scattering Cross Sections and The Effective Weight Function Based on The Barrier Distribution for $^{32}\text{S}92,94,96,98,100\text{Mo}$ Reactions**

CİNAN Z. M., YILMAZ A. H., EROL B., BAŞKAN T.

Beykent University Journal of Science and Engineering, vol.12, no.2, pp.23-30, 2019 (Peer-Reviewed Journal)

IV. **COUPLED- CHANNEL ANALYSES on $^{16}\text{O}70,72,74,76\text{Ge}$ HEAVY-ION FUSION REACTIONS**

Erol B., Yılmaz A. H.

Cumhuriyet Science Journal, vol.39, no.2, pp.463-468, 2018 (Peer-Reviewed Journal)

V. **Coupled- Channels Analyses on $^{40}\text{Ar}+^{176,178,180}\text{Hf}$ Heavy-ion Fusion Reactions**

Erol B., Yılmaz A. H.

Nuclear Theory, no.36, pp.31-38, 2017 (Peer-Reviewed Journal)

Refereed Congress / Symposium Publications in Proceedings

I. **Radiation Shield Polymer-Cement/ SeO_2 /BN Nanocomposites**

Erol B., Cinan Z. M., Başkan T., Mutlu S., Ortaç B., Savaşkan Yılmaz S., Yılmaz A. H.

Radkor-2022, Ankara, Turkey, 02 December 2022 - 04 January 2023, pp.1-3

II. **The Evaluation of the Applications of Polymer-Based Nano-Structured Composites Doped with Tungsten (W) and Tungsten Trioxide (WO_3) for Gamma Irradiation Shieldings**

CİNAN Z. M., BAŞKAN T., EROL B., MUTLU S., SAVAŞKAN YILMAZ S., YILMAZ A. H.

International Conference on Polymer Science and Composite Materials (ICPSCM 2021), Frankfurt, Germany, 08 November 2021, pp.1-2

III. **Influences of Energy Dependent Woods-Saxon Potential and Coupled Channel Model in Heavy-Ion Fusion Reactions: Setting the Theoretical Background of ^{111}In Radionuclide**

Cinan Z. M., Erol B., Başkan T., Yılmaz A. H.

37th Turkish Physical Society International Physics Congress (TPS-37), Muğla, Turkey, 1 - 05 September 2021, vol.37, pp.206

IV. **Inspecting of At-211 Radionuclide via Fusion Reaction of Stable F-19 and Os-192 Nuclei**

CİNAN Z. M., YILMAZ A. H., EROL B., BAŞKAN T.

Turkish Physical Society 36th International Physics Congress, 1 - 05 September 2020

V. **PS-PEG Block Copolymers and PS-PEG-BN Nanocomposites-Gamma Ray Interaction**

CİNAN Z. M., BAŞKAN T., MISIRLIOĞLU Y., EROL B., SAVAŞKAN YILMAZ S., ŞAHİN M., YILMAZ A. H.

Turkish Physical Society 36th International Physics Congress, 1 - 05 September 2020

VI. **The Gamma Ray Sorption of PS-PEG-OPC Composites and PS-PEG-OPC-BN Nanocomposites**

Erol B., Cinan Z. M., Başkan T., Mısırlıoğlu Y., Savaşkan Yılmaz S., Şahin M., Yılmaz A. H.

Turkish Physical Society 36th International Physics Congress, Muğla, Turkey, 1 - 05 September 2020

VII. **Calculations of Nuclear Level Densities for Some Deformed Nuclei**

Başkan T., Cinan Z. M., Bashırlı L., Erol B., Yılmaz A. H.

Turkish Physical Society 36th International Physics Congress, Muğla, Turkey, 1 - 05 September 2020

VIII. **Coupled-Channel Analyses on $^{32}\text{S}90\text{Zr}$ and $^{32}\text{S}96\text{Zr}$ Heavy-Ion Fusion Reactions and Barrier Distributions**

Erol B., Yılmaz A. H., Cinan Z. M., Başkan T.

urkish Physical Society 36th International Physics Congress, Muğla, Turkey, 1 - 05 September 2020

IX. **Production of Platinum Isotopes via Sub-Barrier Fusion Cross Sections of ^{16}O from Stable Ytterbium Isotopes**

CİNAN Z. M., YILMAZ A. H., EROL B.

XII. International Conference on Nuclear Structure Properties (NSP-2019), Bitlis, Turkey, 11 - 13 September 2019

X. **Treatise of Angular Distributions of ^3He Elastic Scattering from Stable Selenium İsootopes**

CİNAN Z. M., YILMAZ A. H., EROL B.

XII. International Conference on Nuclear Structure Properties (NSP-2019), Bitlis, Turkey, 11 - 13 September 2019

- XI. **Optical Model Calculation Descriptions of $6\text{Li}94\text{Nb}$ from 1-Neutron Transfer Channel in $7\text{Li} 93\text{Nb}$ Reaction at Energies Close to the Coulomb Barrier**
CİNAN Z. M., YILMAZ A. H., EROL B., BAŞKAN T.
ISAS2018-2th International Symposium on Innovative Approaches in Engineering and Natural Sciences, Samsun, Turkey, 30 November - 02 December 2018, pp.93
- XII. **Theoretical Disquisition of Angular Distributions for $6,7\text{Li}$ Elastic Scattering Reactions from Heavy MassTarget 208Pb Around The Coulomb Barrier**
CİNAN Z. M., YILMAZ A. H., EROL B., BAŞKAN T.
International Eurasian Conference on Science, Engineering and Technology (EurasianSciEnTech 2018), 22 - 23 November 2018, pp.123
- XIII. **Theoretical Inspection of the Inelastic 3He Scattering Mechanism for $185, 187\text{Re}$ Around 10-30 MeV Energy Ranges**
CİNAN Z. M., YILMAZ A. H., EROL B., BAŞKAN T.
5th INTERNATIONAL SYMPOSIUM ON MULTIDISCIPLINARY STUDIES (ISMS-2018), Ankara, Turkey, 16 - 17 November 2018, pp.56
- XIV. **Coupled-Channel Analyses on $16\text{O} 70,72,74,76\text{Ge}$ Heavy-Ion Fusion Reactions**
Erol B., Yılmaz A. H., Cinan Z. M., Başkan T.
XI. International Conference on Nuclear Structure Properties (NSP-2018), Trabzon, Turkey, 12 - 14 September 2018
- XV. **ELASTIC SCATTERING PROCESSES CALCULATIONS USING THE OPTICAL MODEL PARAMETERS OF $19\text{F} 16, 17, 18\text{O}$ REACTIONS AT MULTIFARIOUS ENERGY REGIONS**
CİNAN Z. M., YILMAZ A. H., EROL B., BAŞKAN T.
XI. INTERNATIONAL CONFERENCE ON NUCLEAR STRUCTURE PROPERTIES (NSP-2018), Trabzon, Turkey, 12 - 14 September 2018, pp.88
- XVI. **Coupled-Channel Analyses on $0-16+\text{Sm}-147,\text{Sm}-148,\text{Sm}-150,\text{Sm}-152,\text{Sm}-154$ Heavy-Ion Fusion Reactions**
Erol B., YILMAZ A. H.
33rd International Physics Congress of the Turkish-Physical-Society (TPS), Bodrum, Turkey, 6 - 10 September 2017, vol.1935
- XVII. **COUPLED- CHANNEL ANALYSES on $40\text{Ar}+176,178,180\text{Hf}$ HEAVY-ION FUSION REACTIONS**
Erol B., Yılmaz A. H.
IWNT36, Sofija, Bulgaria, 25 June - 01 July 2017, pp.31-38
- XVIII. **Coupled-Channels Analyses on $40\text{Ar} (176,178,180)\text{Hf}$ Heavy-Ion Fusion Reactions**
EROL B., YILMAZ A. H.
36 th International Workshop on Nuclear Theory, Rila Mountains, Bulgaria, 25 June - 01 July 2017, vol.36, pp.31-38
- XIX. **COUPLED-CHANNEL ANALYSES ON $(46,48,50)\text{Ti}(124)\text{Sn}$ HEAVY ION FUSION REACTIONS**
Erol B., Yılmaz A. H.
X. INTERNATIONAL CONFERENCE ON NUCLEAR STRUCTURE PROPERTIES, Karabük, Turkey, 20 - 22 September 2017
- XX. **COUPLED-CHANNEL ANALYSES ON $16\text{O}(147,148,150,152,154)\text{Sm}$ HEAVY ION FUSION REACTIONS**
Erol B., Yılmaz A. H.
Turkish Physical Society 33 rd International Physics Congress, Muğla, Turkey, 6 - 10 September 2017, pp.445
- XXI. **Depth dose of 6 and 18 MV photons in water measurement and calculations by the PENELOPE MC code**
EROL B., OKUMUŞOĞLU N. T.
101st National Congress of the Italian Physical Society, 21 - 25 September 2015
- XXII. **DEPTH DOSE OF 6 AND 18 MV PHOTONS IN WATER MEASUREMENT AND CALCULATION BY THE PENELOPE MC CODE**
Erol B., Okumuşoğlu N. T.
TFD 30, Muğla, Turkey, 2 - 05 September 2013

- XXIII. **Depth Dose of Photons in Water Measurement and Calculation by the PENELOPE MC Code**
EROL B., OKUMUŞOĞLU N. T.
TURKISH PHYSICAL SOCIETY 29th INTERNATIONAL PHYSICS CONGRESS, Muğla, Turkey, 5 - 09 September 2012
- XXIV. **ANNUAL EFFECTIVE DOSE AND CONCENTRATION LEVELS OF GROSS ? AND β IN VARIOUS WATERS FROM SAMSUN, TURKEY**
Korkmaz Görür F., Dizman S., Keser R., As N., Akçay N., Erol B., Okumuşoğlu N. T.
TFD28, Muğla, Turkey, 6 - 09 September 2011, pp.103
- XXV. **DETERMINATION OF RADIOACTIVITY LEVELS OF SOIL SAMPLES AND THE EXCESS OF LIFETIME CANCER RISK IN RIZE PROVINCE, TURKEY**
Keser R., Erol B., Korkmaz Görür F., Akçay N., Dizman S., As N., Okumuşoğlu N. T.
TFD28, Muğla, Turkey, 6 - 09 September 2011, pp.79
- XXVI. **RADIOACTIVITY AND HEAVY METAL CONCENTRATIONS IN FOOD SAMPLES FROM RIZE, TURKEY**
Erol B., Akçay N., As N., Korkmaz Görür F., Keser R., Dizman S., Okumuşoğlu N. T.
TFD28, Muğla, Turkey, 6 - 09 September 2011, pp.81
- XXVII. **RADIOACTIVITY AND HEAVY METAL CONCENTRATIONS OF SOME COMMERCIAL FISH SPECIES CONSUMED IN THE BLACK SEA REGION OF TURKEY**
As N., Dizman S., Akçay N., Erol B., Korkmaz Görür F., Keser R., Okumuşoğlu N. T.
TFD28, Muğla, Turkey, 6 - 09 September 2011, pp.104
- XXVIII. **RADIONUCLIDES AND HEAVY METALS CONCENTRATIONS IN TURKISH MARKET TEA**
Akçay N., Korkmaz Görür F., Keser R., As N., Dizman S., Erol B., Okumuşoğlu N. T.
TFD28, Muğla, Turkey, 6 - 09 September 2011, pp.78
- XXIX. **ANNUAL EFFECTIVE DOSE AND CONCENTRATION LEVELS OF GROSS ? AND β IN TURKISH MARKET TEA**
KORKMAZ GÖRÜR F., AKÇAY N., KESER R., DİZMAN S., AS N., EROL B., OKUMUŞOĞLU N. T.
Türk Fizik Derneği 28. Uluslararası Fizik Kongresi, 6 - 09 September 2011
- XXX. **Determination of Radioactivity Levels of Soil Samples and the Excess of Lifetime Cancer Risk in Rize Province**
KESER R., EROL B., KORKMAZ GÖRÜR F., AKÇAY N., DİZMAN S., AS N.
28th International Physics Congress, Muğla, Turkey, 6 - 09 September 2011

Metrics

Publication: 43