

Prof. İskender Atilla Reyhancan

Personal Information

Office Phone: [+90 212 285 7465](tel:+902122857465)

Fax Phone: [+90 212 285 3884](tel:+902122853884)

Email: iareyhancan@itu.edu.tr

Web: <https://avesis.itu.edu.tr/iareyhancan>

International Researcher IDs

ORCID: 0000-0002-4806-4826

ScopusID: 6506674568

Yoksis Researcher ID: 10502

Education Information

Doctorate, Istanbul Technical University, Fen Bilimleri Enstitüsü, Fizik Mühendisliği (Dr), Turkey 1994 - 1999

Postgraduate, Istanbul Technical University, Fen-Edebiyat Fakültesi, Fizik Mühendisliği Bölümü, Turkey 1991 - 1994

Undergraduate, Istanbul Technical University, Fen-Edebiyat Fakültesi, Fizik Mühendisliği Bölümü, Turkey 1983 - 1987

Foreign Languages

English

Dissertations

Doctorate, Nötron spektrometresi ile tomografi ve hacimsel malzemelerin tahribatsız analizi, İstanbul Teknik Üniversitesi, Fen Bilimleri Enstitüsü, Fizik Mühendisliği (Dr), 1999

Postgraduate, Bir Polarize Döteron Hedefin Polarizasyon Miktarının Ölçülmesi, İstanbul Teknik Üniversitesi, Fen-Edebiyat Fakültesi, Fizik Mühendisliği Bölümü, 1994

Research Areas

Technical Sciences, Mechanical Engineering, Energy, Nuclear Energy, Basic Sciences, Physics, Nuclear physics, General Nuclear Reactions, Nuclear Engineering and Nuclear Energy Studies, Special nuclear reactions, Experimental Methods of Particle and Nuclear Physics, Radioactive decay and in-beam spectroscopy

Academic Titles / Tasks

Professor, Istanbul Technical University, Enerji Enstitüsü, Nükleer Araştırmalar, 2013 - Continues

Associate Professor, Istanbul Technical University, Fen-Edebiyat, Fizik Mühendisliği, 2010 - 2013

Associate Professor, Namık Kemal Üniversitesi, Fen-Edebiyat Fakültesi, Fizik Bölümü, 2009 - 2010

Academic and Administrative Experience

Head of Department, Istanbul Technical University, Enerji Enstitüsü, Nükleer Araştırmalar, 2015 - 2021

Fakülte Yönetim Kurulu Üyesi, Istanbul Technical University, Enerji Enstitüsü, 2015 - 2021

Namık Kemal Üniversitesi, Fen-Edebiyat Fakültesi, Fizik Bölümü, 2009 - 2011

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Dose evaluation of ^{142}Pr radioisotope by Monte Carlo method in eye brachytherapy**
Koyuncu N., Reyhancan İ. A.
RADIATION PHYSICS AND CHEMISTRY, vol.177, 2020 (SCI-Expanded)
- II. **A portable fast neutron radiography system for non-destructive analysis of composite materials**
KAM E., Reyhancan İ. A. , Biyik R.
Nukleonika, vol.64, no.3, pp.97-101, 2019 (SCI-Expanded)
- III. **Measurements of activation cross sections by cyclic activation method for (n,2n) reaction on Sm-144 isotope around 14 MeV neutron energy**
Reyhancan İ. A.
RADIOCHIMICA ACTA, vol.107, no.1, pp.33-37, 2019 (SCI-Expanded)
- IV. **Flexible neutron shielding composite material of EPDM rubber with boron trioxide: Mechanical, thermal investigations and neutron shielding tests**
Ozdemir T., Gungor A., Reyhancan İ. A.
RADIATION PHYSICS AND CHEMISTRY, vol.131, pp.7-12, 2017 (SCI-Expanded)
- V. **A Monte Carlo Library Least Square approach in the Neutron Inelastic scattering and Thermal-capture Analysis (NISTA) process in bulk coal samples**
Reyhancan İ. A. , EBRAHİMİ A., Çolak Ü., Erduran M. N. , ANGIN N.
NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS SPECTROMETERS DETECTORS AND ASSOCIATED EQUIPMENT, vol.843, pp.29-33, 2017 (SCI-Expanded)
- VI. **Cross sections of ground and isomeric states for (n,p) reaction on Sm-154 between 13.57 and 14.83 MeV neutrons**
Reyhancan İ. A.
APPLIED RADIATION AND ISOTOPES, vol.113, pp.79-83, 2016 (SCI-Expanded)
- VII. **Neutron shielding of EPDM rubber with boric acid: Mechanical, thermal properties and neutron absorption tests**
Ozdemir T., Akbay I. K. , Uzun H., Reyhancan İ. A.
PROGRESS IN NUCLEAR ENERGY, vol.89, pp.102-109, 2016 (SCI-Expanded)
- VIII. **Properties of Heavyweight Concrete for Structural and Radiation Shielding Purposes**
Ozen S., SENGUL C., ERENOGLU T., Çolak Ü., REYHANCAN İ. A. , TASDEMİR M. A.
ARABIAN JOURNAL FOR SCIENCE AND ENGINEERING, vol.41, no.4, pp.1573-1584, 2016 (SCI-Expanded)
- IX. **Modification of the radial beam port of ITU TRIGA Mark II research reactor for BNCT applications**
Akan Z., TÜRKMEN M., Çakır T., Reyhancan İ. A. , Çolak Ü., OKKA M., KIZILTAS S.
APPLIED RADIATION AND ISOTOPES, vol.99, pp.110-116, 2015 (SCI-Expanded)
- X. **Cu-65 isomeric cross sections for (n,alpha) reaction using approximately 14 MeV neutrons**
DURUSOY A., Reyhancan İ. A. , AKÇALI Ö.
APPLIED RADIATION AND ISOTOPES, vol.99, pp.86-89, 2015 (SCI-Expanded)
- XI. **Measurements of isomeric cross sections for the (n,alpha) reaction on the Nd-142 isotope at approximately 14 MeV neutrons**
Reyhancan I. A.
APPLIED RADIATION AND ISOTOPES, vol.91, pp.44-48, 2014 (SCI-Expanded)
- XII. **Measurements of Isomeric Cross Sections for (n,alpha) Reaction on Sm-144 Isotope for Neutrons Around 14 MeV**
Reyhancan İ. A. , DURUSOY A.
NUCLEAR SCIENCE AND ENGINEERING, vol.174, no.2, pp.202-207, 2013 (SCI-Expanded)

- XIII. **Measurements and model calculations of isomeric cross section for (n, α) reaction on Ce-140 isotope around 14 MeV neutrons**
 Reyhancan I. A.
 ANNALS OF NUCLEAR ENERGY, vol.47, pp.81-84, 2012 (SCI-Expanded)
- XIV. **Measurements and model calculations of activation cross sections for (n,p) reactions on Sm-152 isotope between 13.57 and 14.83 MeV neutrons**
 Reyhancan I. A.
 APPLIED RADIATION AND ISOTOPES, vol.70, no.4, pp.765-769, 2012 (SCI-Expanded)
- XV. **Measurements and model calculations of activation cross sections for Th-232(n,2n)²³¹Th reaction between 13.57 and 14.83 MeV neutrons**
 Reyhancan I. A.
 ANNALS OF NUCLEAR ENERGY, vol.38, no.11, pp.2359-2362, 2011 (SCI-Expanded)
- XVI. **Newly developed semi empirical formulas for p at 17.9 MeV and p np at 22.3 MeV reaction cross sections**
 TEL E., AYDIN A., aydın g., kaplan a., YAVAŞ Ö., Reyhancan İ. A.
 PRAMANA-JOURNAL OF PHYSICS, vol.74, no.6, pp.931-943, 2010 (SCI-Expanded)
- XVII. **Measurements and statistical model calculations of activation cross-sections for Mg-26(n, α)Ne-23 reaction between 13.6 and 14.9 MeV neutron energies**
 Elmah A., Reyhancan I. A.
 ANNALS OF NUCLEAR ENERGY, vol.35, no.6, pp.1068-1072, 2008 (SCI-Expanded)
- XVIII. **Measurements of activation cross-sections for the F-19(n, α)N-16 reaction for neutrons with energies between 13 and 15 MeV**
 Durusoy A., Reyhancan I.
 ANNALS OF NUCLEAR ENERGY, vol.33, no.2, pp.159-162, 2006 (SCI-Expanded)
- XIX. **Cross-section measurements for the Mo-97 (n,p) Nb-97m reaction at the neutron energies from 13.6 to 14.9 MeV**
 Bostan M., GULTEKIN E., Reyhancan I.
 ANNALS OF NUCLEAR ENERGY, vol.30, no.18, pp.1821-1828, 2003 (SCI-Expanded)
- XX. **Measurements of isomeric cross sections for (n,2n) reaction on Ce-140, Nd-142 and Sm-144 isotopes around 14 MeV**
 Reyhancan I., BOSTAN M., DURUSOY A., ELMALI A., BAYKAL A. B., OZBIR Y.
 ANNALS OF NUCLEAR ENERGY, vol.30, no.15, pp.1539-1547, 2003 (SCI-Expanded)
- XXI. **Measurements and statistical model calculations of activation cross sections for F-19(n,p)O-19 reaction between 13.6 and 14.9 MeV neutron energies**
 Reyhancan I.
 ANNALS OF NUCLEAR ENERGY, vol.30, no.9, pp.1001-1007, 2003 (SCI-Expanded)
- XXII. **O 16 n p N 16 reaction cross sections around 14 MeV**
 subaşı m., gültekin e., Reyhancan İ. A.
 NUCLEAR SCIENCE AND ENGINEERING, vol.135, no.3, pp.260-266, 2000 (SCI-Expanded)
- XXIII. **The polarized double cell target of the SMC**
 adams d., adeva b., arık e., arvidson a., badelek b., BALLINTIJN M., BARDIN G., BAUM G., BERGLUND P., BETEV L., et al.
 NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS SPECTROMETERS DETECTORS AND ASSOCIATED EQUIPMENT, vol.437, no.1, pp.23-67, 1999 (SCI-Expanded)
- XXIV. **A large Streamer Chamber muon tracking detector in a high-flux fixed-target application**
 adams d., adeva b., arık e., arvidson a., badelek b., BALLINTIJN M., BARDIN G., BAUM G., BERGLUND P., BETEV L., et al.
 NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS SPECTROMETERS DETECTORS AND ASSOCIATED EQUIPMENT, vol.435, no.3, pp.354-374, 1999 (SCI-Expanded)
- XXV. **n a reaction Cross section of 44Ca 45Sc 51V Nuclei from 13.6 to 14.9 MeV Neutron Energies**
 subaşı m., ERDURAN M. N., BOSTAN İ. M., Reyhancan İ. A., gültekin e., tarcan g.

- NUCLEAR SCIENCE AND ENGINEERING, vol.130, no.2, pp.254-260, 1998 (SCI-Expanded)
- XXVI. **Spin structure of the proton from polarized inclusive deep-inelastic muon-proton scattering**
adams d., adeva b., arık e., arvidson a., badelek b., BALLINTIYN M., BARDIN G., BAUM G., BERGLUND P., BETEV L., et al.
PHYSICAL REVIEW D, vol.56, no.9, pp.5330-5358, 1997 (SCI-Expanded)
- XXVII. **A line shape analysis for spin 1 NMR signals**
dulya c., adams d., adeva b., arık e., Reyhancan İ. A.
Nuclear Instruments and Methods in Physics Research - A, vol.398, pp.109-125, 1997 (SCI-Expanded)
- XXVIII. **Large enhancement of deuteron polarization with frequency modulated microwaves**
adeva b., arık e., ahmad s., arvidson a., Reyhancan İ. A.
Nuclear Instruments and Methods in Physics Research - A, vol.372, no.3, pp.339-343, 1996 (SCI-Expanded)
- XXIX. **Polarisation of valence and non strange sea quarks in the nucleon from semi inclusive spin asymmetries**
adeva b., arık e., arvidson a., badelek b., Reyhancan İ. A.
PHYSICS LETTERS A, vol.369, no.1, pp.93-100, 1996 (SCI-Expanded)
- XXX. **A NEW MEASUREMENT OF THE SPIN DEPENDENT STRUCTURE FUNCTION G_1^x OF THE DEUTERON**
adams d., adeva b., arık e., arvidson a., Reyhancan İ. A.
PHYSICS LETTERS A, vol.357, pp.248-254, 1995 (SCI-Expanded)
- XXXI. **SPIN ASYMMETRY IN MUON PROTON DEEP INELASTIC SCATTERING ON A TRANSVERSELY POLARIZED TARGET**
adams d., adeva b., arık e., arvidson a., Reyhancan İ. A.
PHYSICS LETTERS A, vol.336, no.1, pp.125-130, 1994 (SCI-Expanded)
- XXXII. **MEASUREMENT OF THE SPIN DEPENDENT STRUCTURE FUNCTION G_1^x OF THE PROTON**
adams d., arık e., arvidson a., badelek b., Reyhancan İ. A.
PHYSICS LETTERS A, vol.329, pp.399-406, 1994 (SCI-Expanded)

Articles Published in Other Journals

- I. **MCNP5 Element Library Least Squares Method for On line Coal Analysis**
REYHANCAN İ. A. , untuc b., ERDURAN M. N.
Journal o Nuclear Sciences, 2016 (Peer-Reviewed Journal)
- II. **ABSOLUTE YIELD DETERMINATION OF A 14 - MeV NEUTRON GENERATOR**
Reyhancan İ. A.
ytü sigma, vol.29, pp.1-10, 2011 (Peer-Reviewed Journal)
- III. **BAZI KISA YARI ÖMÜRLÜ ÇEKİRDEKLERİN YARILANMA SÜRELERİNİN BELİRLENMESİ**
Reyhancan İ. A.
YTÜ SİGMA DERGİSİ, vol.4, pp.78-84, 2003 (Peer-Reviewed Journal)

Books & Book Chapters

- I. **Nükleer Kararsızlık**
ALĞIN E., REYHANCAN İ. A. , AYDIN A., KAPLAN A., BOZKURT A., ÇAKIR M. A. , KARA A., KAYIŞ TOPAKSU A., DEMİR B., TEL E., et al.
in: NÜKLEER FİZİK - İlkeler ve Uygulamalar, Abdullah Aydın, İsmail Hakkı Sarpün, Eyyüp Tel, Abdullah Kaplan, Editor, Nobel Akademik Yayıncılık, Ankara, pp.65-91, 2018
- II. **Radyasyonun Madde İle Etkileşmesi**
ALĞIN E., REYHANCAN İ. A. , AYDIN A., KAPLAN A., BOZKURT A., ÇAKIR M. A. , KARA B., KAYIŞ TOPAKSU A., DEMİR B., TEL E., et al.
in: NÜKLEER FİZİK-İlkeler ve Uygulamalar, Abdullah Aydın, İsmail Hakkı Sarpün, Eyyüp Tel, Abdullah Kaplan,

Editor, Nobel Akademik Yayıncılık, Ankara, pp.129-149, 2018

- III. **MonteCarlo Metodu ile Germanyum Dedektörünün Simülasyonu Ve Verim Kalibrasyonu**
REYHANCAN İ. A.

in: Fen Bilimleri ve Matematik Temel Alanı Örnek Araştırmaları, Doç. Dr. Ali Yakar ve Doç. Dr. Hüseyin Topaklı, Editor, Nobel Akademik Yayıncılık, Ankara, pp.123-138, 2018

- IV. **14,5 MeV Nötron Enerjisi Civarında (N,P) Reaksiyon Tesir Kesitleri İçin Yeni Bir Yarı Ampirik Formül**
REYHANCAN İ. A.

in: Fen Bilimleri ve Matematik Temel Alanı Örnek Araştırmaları, Doç. Dr. Ali Yakar ve Doç. Dr. Hüseyin Topaklı, Editor, NOBEL AKADEMİK YAYINCILIK, Ankara, pp.139-158, 2018

Refereed Congress / Symposium Publications in Proceedings

- I. **Spent Fuel Investigation System at ITU Triga Mark II Reactor**
AKYÜREK T., REYHANCAN İ. A., Kızıldağ S.
ANS Winter Meeting Expo 2018, 11 - 15 November 2018
- II. **Neutron and Photon Dose Evaluation of the LINAC Therapy Room Using MCNP5 code**
KOYUNCU N., REYHANCAN İ. A.
Turkish Physical Society International Physical Congress, 5 - 09 September 2018
- III. **On-line coal analyzer with 14 MeV neutron generator**
ÇOLAK Ü., REYHANCAN İ. A., ERDURAN M. N.
XII Balkan Mineral Processing Congress, 1 - 03 November 2017
- IV. **Application of Library Least Square Method in Neutron Inelastic Scattering and Thermal Analysis**
ÇOLAK Ü., REYHANCAN İ. A., ERDURAN M. N., EBRAHİMİ A., ANGIN N.
24. Conference on Accelerator Applications in Research and Industry, Fort Worth, United States Of America, 30 October - 04 November 2016
- V. **Application of library least square method in neutron inelastic scattering and thermal capture analysis**
ÇOLAK Ü., EBRAHİMİ A., ERDURAN M. N., REYHANCAN İ. A., ANGIN N.
24th International conference on the application of accelerators in research and industry, 30 October - 04 November 2016
- VI. **Physical mechanical and radiation properties of heavyweight concretes used for structural and radiation shielding purposes**
ÖZEN S., SENGÜL C., ÇOLAK Ü., TAŞDEMİR M. A., REYHANCAN İ. A.
International Conference on Engineering and Natural Sciences, 24 - 28 May 2016
- VII. **Physical Mechanical and Radiational Properties of Heavyweight Concretes Used for Structural and Radiation**
ÖZEN S., SENGÜL C., ÇOLAK Ü., TAŞDEMİR M. A., REYHANCAN İ. A.
International Conference on Engineering and Natural Sciences, Sarajevo, Bosnia And Herzegovina, 24 - 28 May 2016, pp.1968-1975
- VIII. **Use of PFTNA for On Line Coal Analysis**
ÇOLAK Ü., ERDURAN M. N., REYHANCAN İ. A.
2015 ANS Winter Meeting and Nuclear Techno Expo, Washington, United States Of America, 8 - 12 November 2015, vol.113, pp.479-480
- IX. **MCNP Simulation of a prototype for the on line coal analysis**
UNTUÇ B., ANGIN N., REYHANCAN İ. A.
9th International Physics Conference of the Balkan Physical Union – BPU9, 24 - 27 August 2015, pp.313
- X. **A prototype for the on line element analysis using nuclear techniques**
ANGIN N., UNTUÇ B., REYHANCAN İ. A.
9th International Physics Conference of the Balkan Physical Union – BPU9, 24 - 27 August 2015, pp.55
- XI. **A Cyclic Irradiation Facility For Measuring Cross Sections For Fast Neutron Induced Reactions**

Leading to Short-lived Radioisotopes

REYHANCAN İ. A.

BPU-3 3rd General Conference of the Balkan Physical Union, 2 - 05 September 1997

Supported Projects

Reyhancan İ. A. , Project Supported by Higher Education Institutions, Nükleer Teknikleri Kullanarak On-line Element Analizi İçin Prototip Cihaz Tasarımı, 2014 - 2018

Reyhancan İ. A. , Project Supported by Higher Education Institutions, Düşük Seviye Alfa Spektrometresiyle Çeşitli Örneklerde Radyoizotoplarının Tayin, 2011 - 2016

Activities in Scientific Journals

Journal of Nuclear Sciences, Committee Member, 2015 - Continues

Natural Science and Discovery, Committee Member, 2015 - Continues

Metrics

Publication: 53

Citation (WoS): 528

Citation (Scopus): 503

H-Index (WoS): 7

H-Index (Scopus): 7

Congress and Symposium Activities

İNERMA 2017, Attendee, İstanbul, Turkey, 2017

VIII. ulusal nükleer bilimler ve teknolojileri kongresi, Attendee, Kayseri, Turkey, 2003

Scholarships

CERN Fellowship, TUBITAK, 1993 - Continues