

## **Prof.Dr. Abdulhalik KARABULUT**

### **Kişisel Bilgiler**

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**Posta Adresi:** Atatürk Üniversitesi Fen Fakültesi Fizik Bölümü

### **Eğitim Bilgileri**

Doktora, Atatürk Üniversitesi, Fen Fakültesi, Fizik Atom Ve Molekül Fiziği, Türkiye 1992 - 1996

Yüksek Lisans, Atatürk Üniversitesi, Fen Fakültesi, Fizik Atom Ve Molekül Fiziği, Türkiye 1990 - 1992

Lisans, Atatürk Üniversitesi, Fen Fakültesi, Fizik Atom Ve Molekül Fiziği, Türkiye 1985 - 1989

### **Yabancı Diller**

İngilizce, B1 Orta

### **Araştırma Alanları**

Fizik, Atom ve Molekül Fiziği, Atomik Özellikler ve Fotonla Etkileşmeler, Disiplinlerarası Fizik ve İlgili Bilim ve Teknoloji Alanları, Malzeme Bilimi, Genel Fizik, Fiziğin Matematiksel Yöntemleri, Nükleer Fizik, Nükleer mühendislik ve nükleer enerji çalışmaları, Temel Bilimler

### **Akademik Unvanlar / Görevler**

Prof.Dr., Atatürk Üniversitesi, Fen Fakültesi, Fizik, 2006 - Devam Ediyor

Doç.Dr., Atatürk Üniversitesi, Fen Fakültesi, Fizik, 2000 - Devam Ediyor

Yrd.Doç.Dr., Atatürk Üniversitesi, Fen Fakültesi, Fizik, 1997 - Devam Ediyor

Doktor, Atatürk Üniversitesi, Fen Fakültesi, Fizik, 1996 - Devam Ediyor

### **Akademik İdari Deneyim**

Rektör, Ağrı İbrahim Çeçen Üniversitesi, 2017 - Devam Ediyor

ÜAK Üyesi, Ağrı İbrahim Çeçen Üniversitesi, 2017 - Devam Ediyor

Dekan, Atatürk Üniversitesi, Fen Fakültesi, Fizik, 2016 - 2017

ÜAK Üyesi, Erzurum Teknik Üniversitesi, 2011 - 2012

Rektör Yardımcısı, Erzurum Teknik Üniversitesi, 2011 - 2012

Dekan, Ağrı İbrahim Çeçen Üniversitesi, Fen-Edebiyat Fakültesi, 2008 - 2010

ÜAK Üyesi, Ağrı İbrahim Çeçen Üniversitesi, 2008 - 2010

Rektör Yardımcısı, Ağrı İbrahim Çeçen Üniversitesi, 2008 - 2010

### **Yönetilen Tezler**

Karabulut A., Nötron radyasyona karşı zırhlama amacıyla karma lifli ağır beton üretilmesi, Doktora,

R.MEHRNEJAD(Öğrenci), 2015

KARABULUT A., ÇEŞİTLİ LASTİK VE ALÇI MALZEMELERİN NÖTRON PARÇACIKLARINA KARŞI ZIRH MALZEMESİ OLARAK KULLANILABİLİRLİĞİNİN ARAŞTIRILMASI, Yüksek Lisans, ZITIR(Öğrenci), 2012

KARABULUT A., NÜKLEER UYGULAMALARDA RADYASYON GÜVENLİĞİ AMACIYLA YENİ KALKAN MALZEMELERİN DENEYSEL VE MONTE CARLO SİMÜLASYON KODLARI (CERN-FLUKA VE GEANT4) İLE BELİRLENMESİ VE FABRİKASYONU, Doktora, B.AYGÜN(Öğrenci), 2010

## **SCI, SSCI ve AHCI İndekslerine Giren Dergilerde Yayınlanan Makaleler**

- I. **Investigation of the radioprotective properties of Zingerone, Ibuprofen, and Sulfasalazine against neutron radiation damage**  
Aygün B., Genişel M., Sayyed M., KARABULUT A.  
Radiation Physics and Chemistry, cilt.210, 2023 (SCI-Expanded)
- II. **Li2B4O7-Bi2O3-ZrO4-CaWO4 glass system for neutron protection in neutron applications**  
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Progress in Nuclear Energy, cilt.162, 2023 (SCI-Expanded)
- III. **Investigation of radiation protective features of azadispiro derivatives and their genotoxic potential with Ames/Salmonella test system**  
Alaylar B., Aygun B., TURHAN K., KARADAYI M., CİNAN E., TURGUT Z., KARADAYI G., Abu Al-Sayyed M. I., GÜLLÜCE M., KARABULUT A.  
INTERNATIONAL JOURNAL OF RADIATION BIOLOGY, cilt.99, sa.2, ss.245-258, 2023 (SCI-Expanded)
- IV. **Effect of the B4C content on microstructure, microhardness, corrosion, and neutron shielding properties of Al-B4C composites**  
Gaylan Y., Avar B., Panigrahi M., Aygün B., KARABULUT A.  
Ceramics International, cilt.49, sa.3, ss.5479-5488, 2023 (SCI-Expanded)
- V. **Determination of toxicity and radioprotective properties of bacterial and fungal eumelanin pigments**  
Bayram S., Aygün B., KARADAYI M., Alaylar B., GÜLLÜCE M., KARABULUT A.  
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- VI. **Determination of biological radioprotective characteristics of some natural organic compounds for radiation shielding applications**  
AYGÜN B., ŞENTÜRK M., CİNAN E., Simsek Ö., Abu Al-Sayyed M. I., KARABULUT A.  
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- VII. **Investigation of radiation protective features of Azadispiro derivatives and their genotoxic potential with Ames/Salmonella test system**  
Aygün B., Alaylar B., Turhan K., Karadayı M., Cinan E., Turgut Z., Karadayı G., Güllüce M., Sayyed M., Karabulut A.  
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- VIII. **Investigation of some drug active substances able to protect against radiation damage with experimental and Monte Carlo calculations**  
Aygün B., Akincioğlu A., Sayyed M., Karabulut A.  
Radiation Physics And Chemistry, sa.191, ss.1-7, 2022 (SCI-Expanded)
- IX. **Fabrication of novel neutron shielding materials: Polypropylene composites containing colemanite, tincal and ulexite**  
BİLİCİ İ., AYGÜN B., DENİZ C. U., Oz B., Sayyed M. I., KARABULUT A.  
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- X. **Synthesis, physical properties, and gamma-ray shielding capacity of different Ni-based super alloys**  
Ekinci N., El-Agawany F., Mahmoud K., Karabulut A., Aygün B., Yousef E., Rammah Y.  
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- XI. **Characterization of gamma-ray and neutron radiation absorption properties of synthesized quinoline derivatives and their genotoxic potential**

- Alaylar B., Aygün B., Turhan K., Karadayı G., Şakar E., Singh V., Sayyed M., Pelit E., Karabulut A., Güllüce M., et al.  
Radiation Physics and Chemistry, cilt.184, 2021 (SCI-Expanded)
- XII. **Development of new heavy concretes containing chrome-ore for nuclear radiation shielding applications**  
Aygün B., Sakar E., Agar O., Sayyed M. I., Karabulut A., Singh V. P.  
PROGRESS IN NUCLEAR ENERGY, cilt.133, 2021 (SCI-Expanded)
- XIII. **Development of SiO<sub>2</sub> based doped with LiF, Cr<sub>2</sub>O<sub>3</sub>, CoO<sub>4</sub> and B<sub>2</sub>O<sub>3</sub> glasses for gamma and fast neutron shielding**  
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- XIV. **Determination of radioprotective and genotoxic properties of sulfamide derivatives**  
Aygün B., Alaylar B., Akıncıoğlu A., Allm B., Kocaman E. T., Karadayı M., Abu Al-Sayyed M. I., Aksu S., Sakar E., Özpolat Ö. F., et al.  
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- XV. **Experimental and Monte Carlo simulation study on potential new composite materials to moderate neutron-gamma radiation**  
Aygün B., Şakar E., Singh V. P., Sayyed M. I., Korkut T., Karabulut A.  
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- XVI. **Investigation of neutron and gamma radiation protective characteristics of synthesized quinoline derivatives**  
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- XVII. **Development and production of metal oxide doped glasses for gamma ray and fast neutron shielding**  
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- XVIII. **New high temperature resistant heavy concretes for fast neutron and gamma radiation shielding**  
AYGÜN B., ŞAKAR E., KORKUT T., SAYYED M., KARABULUT A.  
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- XIX. **Fabrication of Ni, Cr, W reinforced new high alloyed stainless steels for radiation shielding applications**  
Aygün B., ŞAKAR E., Korkut T., Sayyed M. I., KARABULUT A., Zaid M. H. M.  
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- XX. **Investigation of high-temperature-resistant rhenium-boron neutron shields by experimental studies and Monte Carlo simulations**  
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NUCLEAR SCIENCE AND TECHNIQUES, cilt.29, sa.7, 2018 (SCI-Expanded)
- XXI. **Monte Carlo Design and Experiments on the Neutron Shielding Performances of B<sub>2</sub>O<sub>3</sub>-ZnO-Bi<sub>2</sub>O<sub>3</sub> Glass System**  
Kaewkhao J., Korkut T., Korkut H., Aygün B., Yasaka P., Tuscharoen S., Insiripong S., Karabulut A.  
Glass Physics and Chemistry, cilt.43, sa.6, ss.560-563, 2017 (SCI-Expanded)
- XXII. **Monte Carlo Design and Experiments on the Neutron Shielding Performances of B<sub>2</sub>O<sub>3</sub>-ZnO- Bi<sub>2</sub>O<sub>3</sub> Glass System**  
Kaewkhao J., Korkut T., Korkut H., Aygün B., Yasaka P., Tuscharoen S., Insiripong S., Karabulut A.  
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- XXIII. **Determination and Fabrication of New Shield Super Alloys Materials for Nuclear Reactor Safety by Experiments and Cern-Fluka Monte Carlo Simulation Code, Geant4 and WinXCom**  
Bünyamin A., KORKUT T., KARABULUT A.  
Journal of Physics, cilt.707, sa.1, ss.1-7, 2016 (SCI-Expanded)
- XXIV. **Study of neutron attenuation properties of super alloys with added rhenium**  
KORKUT T., Aygün B., Bayram O., KARABULUT A.

- JOURNAL OF RADIOANALYTICAL AND NUCLEAR CHEMISTRY, cilt.306, sa.1, ss.119-122, 2015 (SCI-Expanded)
- XXV. **Production and Neutron Irradiation Tests on a New Epoxy/Molybdenum Composite**  
Aygun B., KORKUT T., Karabulut A., GENÇEL O., KARABULUT A.  
INTERNATIONAL JOURNAL OF POLYMER ANALYSIS AND CHARACTERIZATION, cilt.20, sa.4, ss.323-329, 2015 (SCI-Expanded)
- XXVI. **Neutron Equivalent Dose Rate Measurements of Gypsum-Waste Tire Rubber Layered Structures**  
Korkut T., UMAC Z. I., AYGUN B., KARABULUT A., Yapıcı S., ŞAHİN R.  
INTERNATIONAL JOURNAL OF POLYMER ANALYSIS AND CHARACTERIZATION, cilt.18, sa.6, ss.423-429, 2013 (SCI-Expanded)
- XXVII. **Investigation of neutron shielding properties depending on number of boron atoms for colemanite, ulexite and tincal ores by experiments and FLUKA Monte Carlo simulations**  
Korkut T., KARABULUT A., BUDAK G., Aygun B., GENÇEL O., HANÇERLİOĞULLARI A.  
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- XXVIII. **Gamma-irradiated calcium succinate monohydrate single crystal investigation with EPR technique**  
Yarbasi Z., KARABULUT B., KARABULUT A.  
SPECTROCHIMICA ACTA PART A-MOLECULAR AND BIOMOLECULAR SPECTROSCOPY, cilt.83, sa.1, ss.337-339, 2011 (SCI-Expanded)
- XXIX. **EPR and optical studies of vanadium doped potassium dihydrogen citrate ( $C_6H_7KO_7$ ) single crystal**  
Yarbasi Z., KARABULUT A., KARABULUT B.  
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- XXX. **EPR Studies of Copper-Doped Potassium Dihydrogen Citrate ( $C_6H_7KO_7$ ) Single Crystal**  
Yarbasi Z., KARABULUT A., KARABULUT B.  
APPLIED MAGNETIC RESONANCE, cilt.41, sa.1, ss.51-57, 2011 (SCI-Expanded)
- XXXI. **Determination of radiation attenuation coefficients of heavyweight- and normal-weight concretes containing colemanite and barite for 0.663 MeV gamma-rays**  
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- XXXII. **A new radiation shielding material Amethyst ore**  
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- XXXIII. **Determination of elemental concentration of seed coats of different fruits by using WDXRF spectroscopy technique**  
Korkut T., Korkut H., Karabulut A., Budak G.  
Journal of Radioanalytical and Nuclear Chemistry, cilt.287, sa.2, ss.501-504, 2011 (SCI-Expanded)
- XXXIV. **Neutron dose transmission measurements for several new concrete samples including colemanite**  
Korkut T., Un A., Demir F., Karabulut A., Budak G., ŞAHİN R., OLTULU M.  
ANNALS OF NUCLEAR ENERGY, cilt.37, sa.7, ss.996-998, 2010 (SCI-Expanded)
- XXXV. **Radiation transmission of heavyweight and normal-weight concretes containing colemanite for 6 MV and 18 MV X-rays using linear accelerator**  
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Annals of Nuclear Energy, cilt.37, ss.339-344, 2010 (SCI-Expanded)
- XXXVI. **EPR and UV studies of  $VO_2^+$  ions in potassium D-gluconate monohydrate single crystals**  
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- XXXVII. **An EPR and optical absorption study of  $Cu^{2+}$  doped in disodium malonate trihydrate single crystal**  
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- XXXVIII. **Determination of Elemental Variations in Tea Leaves (*Camellia sinensis L.*) in Different Harvest Time by WDXRF Spectrometry**

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ASIAN JOURNAL OF CHEMISTRY, cilt.21, sa.2, ss.1313-1317, 2009 (SCI-Expanded)
- XXXIX. **Determination of Effect of X-ray Tube Emission Current (IE) on Intensities of X-rays for Two Different Sample Preparation Method Using Correction Factor in WDXRF Spectrometer**  
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INSTRUMENTATION SCIENCE & TECHNOLOGY, cilt.37, sa.4, ss.437-445, 2009 (SCI-Expanded)
- XL. **Measurements of K X-ray fluorescence cross sections of Fe, Co, and Ni in an external magnetic field**  
GÜROL A., KARABULUT A., ERTUĞRUL M., Budak G.  
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- XLI. **Effect on particle size to emitted X-ray intensity in pellet cement sample analyzed with WDXRF spectrometer**  
Demir F., Simsek Ö., Budak G., KARABULUT A.  
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- XLII. **F-4 Effect of X-ray Tube Power On Intensities of K $\alpha$  X-Rays of Trace Elements from Samples Obtained by Using Different Sample Preparation Methods in WDXRF Spectrometer**  
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- XLIII. **Determination of replacement of some inorganic elements in pulvinus of bean (*Phaseolus vulgaris* cv. Gina 2004) at chilling temperature by the WDXRF spectroscopic technique**  
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- XLIV. **Trace element changes during hibernation of *Drosophila melanogaster* by WDXRF analyses at chilling temperature**  
Dumlupinar R., DEMYR F., SISMAN T., BUDAK G., KARABULUT A., ERMAN O. K., BAYDAS E.  
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- XLV. **Analysis of some elements in three Chrysolina (Coleoptera, Chrysomelidae) species by EDXRF spectrometry**  
Budak G., Aslan I., Karabulut A., Tirasoglu E.  
Journal of Quantitative Spectroscopy and Radiative Transfer, cilt.101, sa.2, ss.195-200, 2006 (SCI-Expanded)
- XLVI. **Measurements of L XRF fluorescence cross-sections and relative intensity ratios for some elements in the atomic range 72 <= Z <= 92**  
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- XLVII. **Determination of K, Ca, Fe and Ni in *Leptinotarsa decemlineata* (Say) by EDXRF spectroscopy**  
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- XLVIII. **Determination of elements in some lichens growing in Giresun and Ordu province (Turkey) using energy dispersive X-ray fluorescence spectrometry**  
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- XLIX. **The role of iron and zinc in chemotherapy-induced alopecia**  
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- L. **Determination of trace elements in three Chrysomela (Coleoptera, Chrysomelidae) species by EDXRF analyses**  
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- LI. **K-shell absorption jump factors for the elements Ag, Cs, Ba and La derived from new mass**

- attenuation coefficient measurements using EDXRF technique**  
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- LII. **K shell and L subshell and L shell photoeffect cross-sections in the atomic region 40 <= Z <= 52 and 58 <= Z <= 68 at 59.537keV**  
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- LIII. **The amounts Fe, Ba, Sr, K, Ca and Ti in some lichens growing in Erzurum province (Turkey)**  
Aslan A., Budak G., Karabulut A.  
JOURNAL OF QUANTITATIVE SPECTROSCOPY & RADIATIVE TRANSFER, cilt.88, sa.4, ss.423-431, 2004 (SCI-Expanded)
- LIV. **Inelastic and elastic scattering differential cross-sections of 59.5 keV photons for Cu and Zn targets**  
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- LV. **Elemental composition of cement Kiln dust, raw material and cement from a coal-fired cement factory using energy dispersive X-ray fluorescence spectroscopy**  
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- LVI. **Determination of P, S, Cl, K, and Ca in human urinary stones by EDXRF**  
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- LVII. **Analysis of elements in some lichens by radioisotope X-ray fluorescence spectrometry**  
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- LIX. **Angular dependence of L<sub>1</sub>, L<sub>α</sub>, L<sub>β</sub> and L<sub>γ</sub> X-ray differential and fluorescence cross-sections for Er, Ta, W, Au, Hg and Tl**  
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- LXI. **Determination of K-shell absorption jump factor for some elements using EDXRF Technique**  
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