

## Prof. ELİF ORHAN

### Personal Information

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### International Researcher IDs

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Publons / Web Of Science ResearcherID: H-5452-2012

ScopusID: 57034335100

Yoksis Researcher ID: 133526

### Biography

I am a professor in Department of Physics at Gazi University, Turkey. I have focused the research efforts on the field the X-Ray Fluorescence (XRF) Spectroscopy, graphene based Schottky diodes, optical waveguides, microdisk/ring add-drop multiplexers in the field of materials science, integrated optics and fiber optic communication systems.

### Education Information

Doctorate, Ataturk University, Fen Bilimleri Enstitüsü, Fizik (Dr), Turkey 1996 - 2000

Postgraduate, Kütahya Dumlupınar University, Fen Bilimleri Enstitüsü, Fizik (YI) (Tezli), Turkey 1993 - 1996

Undergraduate, Ataturk University, Kâzım Karabekir Eğitim Fakültesi, Matematik Ve Fen Bilimleri Eğitimi Bölümü, Turkey 1989 - 1993

### Foreign Languages

English, B2 Upper Intermediate

### Certificates, Courses and Trainings

Project Management, Proje Döngüsü Eğitimi, Ankara Kalkınma Ajansı, 2020

Entrepreneurship, Kosgeb Girişimcilik Eğitimi Sertifikası, T.C. Sanayi ve Teknoloji Bakanlığı, 2020

Other, TÜBİTAK BURSİYERLİK BAŞARI SERTİFİKASI, TÜBİTAK, 2019

Vocational Training, Bağımsız Dış Uzmanlık, Ulusal Ajans, 2015

Vocational Training, TÜBİTAK-2219, TÜBİTAK, 2013

Foreign Language, Yabancı Dil Kursu, University Maryland Baltimore County, 2013

### Dissertations

Doctorate, Atom numarası 59-92 arasında olan bazı elementler için L tabakasına ait coster-kronig şiddetlendirme

faktörlerinin ölçülmesi, Ataturk University, Fen Bilimleri Enstitüsü, Fizik (Dr), 2000

Postgraduate, Atom numarası 25Z101 olan elementler için L ve M tabakalarına ait ortalama floresans verimlerin hesaplanması, Kütahya Dumlupınar University, Fen Bilimleri Enstitüsü, Fizik (YI) (Tezli), 1996

## Research Areas

Physics, Theory of Atoms and Molecules, Atomic Spectra and Photon Interactions, Atomic and Molecular Interactions, Interdisciplinary Physics and Related Science and Technology Areas, Electronic and magnetic devices, microelectronics, Materials Science, Surfaces, Interfaces, Thin Films and Nanosystems

## Academic Titles / Tasks

Professor, Gazi University, Fen Fakültesi, Fizik, 2013 - Continues

Professor, University of Maryland Baltimore County, College Of Engineering And Information Technology, Computer Science And Electrical Engineering, 2013 - 2014

Associate Professor, Gazi University, Fen Bilimleri Enstitüsü, İleri Teknolojiler Anabilim Dalı (Disiplinlerarası), 2008 - 2013

Associate Professor, Ataturk University, Fen Fakültesi, Fizik Bölümü, 2006 - 2008

Assistant Professor, Ataturk University, Fen Fakültesi, Fizik Bölümü, 2001 - 2006

Research Assistant, Pamukkale University, Faculty Of Arts And Sciences, Department Of Physics, 1994 - 2000

## Academic and Administrative Experience

Gazi University, Fen Bilimleri Enstitüsü, İleri Teknolojiler Anabilim Dalı (Disiplinlerarası), 2012 - 2017

Gazi University, Fen Bilimleri Enstitüsü, İleri Teknolojiler Anabilim Dalı (Disiplinlerarası), 2008 - 2017

Enstitü Yönetim Kurulu Üyesi, Gazi University, Fen Bilimleri Enstitüsü, 2015 - 2016

Fakülte Yönetim Kurulu Üyesi, Gazi University, Fen Fakültesi, 2014 - 2016

## Courses

Malzemelerin Elektriksel ve Manyetik Özellikleri, Doctorate, 2022 - 2023

GENERAL PHYSICS 2, Undergraduate, 2022 - 2023

GENERAL PHYSICS 1, Undergraduate, 2022 - 2023

GENERAL PHYSICS, Undergraduate, 2022 - 2023

GENERAL PHYSICS-I, Undergraduate, 2021 - 2022

Malzemelerin Elektriksel Ve Manyetik Özellikleri, Doctorate, 2021 - 2022

Genel Fizik-I, Undergraduate, 2020 - 2021

Genel Fizik-I, Undergraduate, 2020 - 2021

GENEL FİZİK-I, Undergraduate, 2020 - 2021

Modern Spectroscopy, Doctorate, 2018 - 2019

Micro and Nano Patterning Techniques, Doctorate, 2017 - 2018

General Physics II, Undergraduate, 2010 - 2011

## Advising Theses

Orhan E., Kısa Dalga Kızıl Ötesi Uygulamalar İçin Hibrit Foto-diyot Geliştirilmesi, Doctorate, Z.Berktaş(Student), Continues

Orhan E., Km-Mesafe Uzaklık Tayininde Uçuş Zamanı İçin SiPM Dedektör ve Okuma Elektroniklerinin Uygulanabilirliğinin

Araştırılması, Doctorate, M.Tiken(Student), Continues

Orhan E., GRAFEN TEMELLİ HİBRİT İNCE FİLMLEİN BÜYÜTÜLMESİ VE ANALİZİ, Postgraduate, M.Albayrak(Student), Continues

Orhan E., Design and fabrication of infrared (IR) sensitive photodetector, Doctorate, E.Efil(Student), 2022

Orhan E., FABRICATION AND CHARACTERIZATION OF OPTO-ELECTRONIC DEVICE BY ATOMIC LAYER DEPOSITION METHOD, Doctorate, N.Kaymak(Student), 2022

Orhan E., STABILITY AND RELIABILITY ANALYSIS OF INTEGRATED OPTICAL DEVICES, Doctorate, S.Dönertaş(Student), 2021

Orhan E., Ertuğrul M., Si Dalgakılavuzlu Hibrit Fotodedektör Geliştirilmesi, Doctorate, E.Seven(Student), 2021

ORHAN E., Design, Characterization And Application Of Nd:Yvo4 Laser Crystal Green Laser With Mgo:Ppln Shg Crystal, Postgraduate, M.BURÇİN(Student), 2017

ORHAN E., Gas Detection Using Fiber Loop Ring-Down Spectroscopy, Postgraduate, F.HANİFEHPOURSARDROUD(Student), 2016

ORHAN E., Al/Poly(Methyl methacrylate)/p-Si organik schottky diyotların üretimi, elektrik ve dielektrik özelliklerinin incelenmesi, Doctorate, F.GONCA(Student), 2015

ORHAN E., Silikon nitrat (Si3N4) filmlerin plazma destekli kimyasal buhar biriktirme (PECVD) yöntemi ile üretimi ve optik karakterizasyonu, Postgraduate, E.ODABAŞI(Student), 2015

ORHAN E., Experimental Study Of Effects Of Ultrasonic Waves On Heat Distribution In Gaseous Medium, Postgraduate, M.KÖPRÜ(Student), 2015

ORHAN E., Fabrication and characterization of single mode silicon on insulator optical waveguide, Postgraduate, Ö.ARAS(Student), 2013

ORHAN E., Determination of the distribution of solar radiation in Turkey by satellite based quadratic model, Postgraduate, Y.ÖZDEMİR(Student), 2012

ORHAN E., Optic add-drop multiplexers, Postgraduate, F.GONCA(Student), 2012

ORHAN E., Calculation of average fluorescence yields of N shell for elements 38 &#8804; Z &#8804; 101, Postgraduate, İ.Yavuz(Student), 2012

ORHAN E., Determination of matrix effects on major oxides in geological samples by WD-XRF spektrometer, Postgraduate, G.BİLGE(Student), 2011

ORHAN E., AlGaN temelli UV-LED yapılarının metal organik buhar fazı epitaksisi yöntemi ile büyütülmesi ve karakterizasyonu, Postgraduate, M.ÖZTÜRK(Student), 2011

ORHAN E., The fabrication and characterization of benzocyclobutene (BCB 4022-35) polymer thin films by spin, Postgraduate, İ.KARAÇALI(Student), 2010

## Jury Memberships

Associate Professor Exam, Associate Professor Exam, Boğaziçi Üniversitesi, December, 2020

Doctoral Examination, Doctoral Examination, Gazi Üniversitesi, December, 2020

Associate Professor Exam, Associate Professor Exam, Orta Doğu Teknik Üniversitesi, September, 2020

Associate Professor Exam, Associate Professor Exam, Çanakkale Onsekiz Mart Üniversitesi, September, 2020

Appointment to Academic Staff-Assistant Professorship, Appointment Academic Staff, Bitlis Eren Üniversitesi, August, 2020

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

### I. PEI N-doped graphene quantum dots/p-type silicon Schottky diode

Berktaş Z., Yıldız M., Seven E., ORHAN E., ALTINDAL Ş.  
FLATCHEM, vol.36, 2022 (SCI-Expanded)

### II. Performance evaluation of self-mixing interferometer with the ceramic type piezoelectric accelerometers

Berberoglu H., Tiken M., ESELLER K. E., ORHAN E., Candan C.

OPEN PHYSICS, vol.20, no.1, pp.78-86, 2022 (SCI-Expanded)

- III. **Double-exponential current-voltage (I-V) behavior of bilayer graphene-based Schottky diode**  
Kutluoglu E. E., ORHAN E., TATAROĞLU A., BAYRAM Ö.  
PHYSICA SCRIPTA, vol.96, no.12, 2021 (SCI-Expanded)
- IV. **The impact of gamma-ray irradiation on temperature-sensitive electrical characteristics of Graphene/Al<sub>2</sub>O<sub>3</sub>/p-type Si structure**  
Kaymak N., Orhan E., Bilge Ocak S.  
PHYSICA SCRIPTA, vol.96, no.12, 2021 (SCI-Expanded)
- V. **Changes in frequency-dependent dielectric features of monolayer graphene/silicon structure due to gamma irradiation**  
Seven E., ORHAN E., BİLGE OCAK S.  
PHYSICA SCRIPTA, vol.96, no.12, 2021 (SCI-Expanded)
- VI. **Gamma-ray irradiation effects on capacitance and conductance of graphene-based Schottky diode**  
Kutluoglu E. E., Orhan E., Bayram Ö., Bilge Ocak S.  
PHYSICA B-CONDENSED MATTER, vol.621, 2021 (SCI-Expanded)
- VII. **Determining thermo-mechanical stress sources of an integrated optical device**  
Donertas S., GÖKKAVAS M., ÖZBAY E., ORHAN E.  
OPTIK, vol.242, 2021 (SCI-Expanded)
- VIII. **Antibacterial Efficiencies of CVD-PECVD Graphene Nanostructures Synthesized onto Glass and Nickel Substrates against Escherichia coli and Staphylococcus aureus Bacteria**  
ORHAN E., AYDIN B., AÇIK L., ÖZ F., Varzakas T.  
APPLIED SCIENCES-BASEL, vol.11, no.17, 2021 (SCI-Expanded)
- IX. **Dielectric characteristics and electrical conductivity behavior of graphene/Al<sub>2</sub>O<sub>3</sub>/p-type silicon structure**  
Kaymak N., Orhan E., Bayram O., Bilge Ocak S.  
Materials Chemistry and Physics, vol.258, 2021 (SCI-Expanded)
- X. **Experimental Study on Km-Range Long-Distance Measurement Using Silicon Photomultiplier Sensor with Low Peak Power Laser Pulse**  
Candan C., Tiken M., Berberoglu H., ORHAN E., Yeniay A.  
APPLIED SCIENCES-BASEL, vol.11, no.1, 2021 (SCI-Expanded)
- XI. **3D-graphene-laser patterned p-type silicon Schottky diode**  
Orhan E., Efil E., Bayram O., Kaymak N., Berberoglu H., Candemir O., Pavlov I., Ocak S. B.  
MATERIALS SCIENCE IN SEMICONDUCTOR PROCESSING, vol.121, 2021 (SCI-Expanded)
- XII. **Current voltage analyses of Graphene-based structure onto Al<sub>2</sub>O<sub>3</sub>/p-Si using various methods**  
Efil E., Kaymak N., Seven E., Orhan E., Bayram Ö., Bilge Ocak S., Tataroğlu A.  
VACUUM, vol.181, 2020 (SCI-Expanded)
- XIII. **Electrical properties of Graphene/Silicon structure with Al<sub>2</sub>O<sub>3</sub> interlayer**  
Kaymak N., Bayram Ö., Tataroğlu A., Bilge Ocak S., Orhan E.  
JOURNAL OF MATERIALS SCIENCE-MATERIALS IN ELECTRONICS, vol.31, no.12, pp.9719-9725, 2020 (SCI-Expanded)
- XIV. **Effects of temperature and frequency on capacitance and conductance characteristics of zinc-oxide based MIS-Structure**  
Kaymak N., Efil E., Seven E., Tataroğlu A., Bilge Ocak S., Orhan E.  
PHYSICA B-CONDENSED MATTER, vol.576, 2020 (SCI-Expanded)
- XV. **Performance evaluation of fiber-based ballistic composites against laser threats**  
Candan C., Seymen A. A., Karatutlu A., Tiken M., Midilli Y., ORHAN E., Berberoglu H., ORTAÇ B.  
OPTICS AND LASERS IN ENGINEERING, vol.121, pp.54-60, 2019 (SCI-Expanded)
- XVI. **Frequency dependent dielectric properties of atomic layer deposition grown zinc-oxide based MIS structure**  
Efil E., Kaymak N., Seven E., Tataroglu A., Ocak S., Orhan E.

- PHYSICA B-CONDENSED MATTER, vol.568, pp.31-35, 2019 (SCI-Expanded)
- XVII. **Electrical characteristics analyses of zinc-oxide based MIS structure grown by atomic layer deposition**  
Kaymak N., Efil E., Seven E., Tataroğlu A., Bilge S., Orhan E.  
MATERIALS RESEARCH EXPRESS, vol.6, no.2, 2019 (SCI-Expanded)
- XVIII. **Study of frequency dependent characterization: applied gamma-ray irradiation on metal-polymer nanostructure**  
Akay D., Efil E., Kaymak N., Orhan E., Ocak S.  
JOURNAL OF RADIOANALYTICAL AND NUCLEAR CHEMISTRY, vol.318, no.2, pp.1409-1417, 2018 (SCI-Expanded)
- XIX. **Investigation of dielectric properties of heterostructures based on ZnO structures**  
Selcuk A. H., Orhan E., Ocak S., Selcuk A. B., Gökmen U.  
MATERIALS SCIENCE-POLAND, vol.35, no.4, pp.885-892, 2017 (SCI-Expanded)
- XX. **Quantitative X-Ray Analysis for Cr-Fe Binary Ferroalloys by Using EDXRF-WDXRF Techniques**  
Buyukyildiz M., Boydas E., KURUDİREK M., ORHAN E.  
INSTRUMENTS AND EXPERIMENTAL TECHNIQUES, vol.60, no.4, pp.584-588, 2017 (SCI-Expanded)
- XXI. **Frequency dependent dielectric properties of PMMA deposited on p-type silicon**  
Selcuk A. B., Ocak S., Aras G., ORHAN E.  
MATERIALS SCIENCE IN SEMICONDUCTOR PROCESSING, vol.38, pp.119-125, 2015 (SCI-Expanded)
- XXII. **Electrical analysis of Al/ZnO/p-Si, Al/PMMA/p-Si and Al/PMMA/ZnO/p-Si structures: Comparison study**  
Ocak S., Selcuk A. B., Aras G., Orhan E.  
MATERIALS SCIENCE IN SEMICONDUCTOR PROCESSING, vol.38, pp.249-256, 2015 (SCI-Expanded)
- XXIII. **Electrical Characteristics of Al/Poly(methyl methacrylate)/p-Si Schottky Device**  
Selcuk A. B., Ocak S., Aras F. G., ORHAN E.  
JOURNAL OF ELECTRONIC MATERIALS, vol.43, no.9, pp.3263-3269, 2014 (SCI-Expanded)
- XXIV. **Chemical shifts observed in L alpha X-ray emission lines of elements in the range of  $26 \leq Z \leq 30$  in their halogen compounds**  
Buyukyildiz M., Baydas E., KURUDİREK M., Oz E.  
JOURNAL OF RADIOANALYTICAL AND NUCLEAR CHEMISTRY, vol.292, no.2, pp.467-472, 2012 (SCI-Expanded)
- XXV. **Chemical effects in the K alpha and K beta(1,3) of X-ray emission spectra of Fe**  
Baydas E., Oz E.  
JOURNAL OF ELECTRON SPECTROSCOPY AND RELATED PHENOMENA, vol.185, pp.27-31, 2012 (SCI-Expanded)
- XXVI. **Measurements of Coster-Kronig enhancement factors for Tm-69**  
Yılmaz R., ARICI K., Oz E., Tan M.  
JOURNAL OF ELECTRON SPECTROSCOPY AND RELATED PHENOMENA, vol.184, pp.1-4, 2011 (SCI-Expanded)
- XXVII. **Average 2p subshells fluorescence yield values of some elements in the atomic number range  $60 \leq Z \leq 90$**   
ERTUĞRUL M., Oz E., ŞİMŞEK Ö., Sahin Y.  
JOURNAL OF ELECTRON SPECTROSCOPY AND RELATED PHENOMENA, vol.177, no.1, pp.19-23, 2010 (SCI-Expanded)
- XXVIII. **Effects of chemical combination on x-ray K alpha and K beta(1,3) emission spectra of Co**  
Baydas E., Oz E.  
PHYSICA SCRIPTA, vol.81, no.1, 2010 (SCI-Expanded)
- XXIX. **Chemical shifts of Cr K alpha and K beta(1,3) lines by WDXRF spectrometry**  
Baydas E., Oz E.  
X-RAY SPECTROMETRY, vol.38, no.5, pp.394-398, 2009 (SCI-Expanded)
- XXX. **Measurements of Coster-Kronig enhancement factors for Yb, Lu, Os and Pt elements**  
Yılmaz R., Oz E., Tan M., Durak R., Demirel A. I., Sahin Y.  
RADIATION PHYSICS AND CHEMISTRY, vol.78, no.5, pp.318-322, 2009 (SCI-Expanded)
- XXXI. **Chemical shifts of K alpha and K beta(1,3) X-ray emission spectra for oxygen compounds of Ti, Cr, Fe, Co, Cu with WDXRF**

- Oez E., Baydas E., ŞAHİN Y.  
JOURNAL OF RADIOANALYTICAL AND NUCLEAR CHEMISTRY, vol.279, no.2, pp.529-537, 2009 (SCI-Expanded)
- XXXII. **Determination of ratios of emission probabilities of Auger electrons and K-L-shell radiative vacancy transfer probabilities for 17 elements from Mn to Mo at 59.5 keV**  
Oz E.  
JOURNAL OF QUANTITATIVE SPECTROSCOPY & RADIATIVE TRANSFER, vol.97, no.1, pp.41-50, 2006 (SCI-Expanded)
- XXXIII. **Measurement of L shell X-ray fluorescence intensity ratios for some elements in the atomic number range of  $66 \leq Z \leq 90$  by photoionization of consecutive L-subshells**  
Oz E., Baydas E., Ertugrul M., Sahin Y.  
JOURNAL OF RADIOANALYTICAL AND NUCLEAR CHEMISTRY, vol.260, no.1, pp.75-79, 2004 (SCI-Expanded)
- XXXIV. **Measurements of Coster-Kronig enhancement factors of some elements in the atomic number range  $74 \leq Z \leq 90$**   
Oz E., Sahin Y., Ertugrul M.  
RADIATION PHYSICS AND CHEMISTRY, vol.69, no.1, pp.17-21, 2004 (SCI-Expanded)
- XXXV. **Measurements of Coster-Kronig enhancement factors of some elements in the atomic number range  $66 \leq Z \leq 72$**   
Oz E., Ekinci N., Ertugrul M., Sahin Y.  
X-RAY SPECTROMETRY, vol.32, no.2, pp.153-157, 2003 (SCI-Expanded)
- XXXVI. **Measurement of alignment parameter for photon induced L-3 vacancies in the elements  $59 \leq Z \leq 92$**   
Ertugrul M., Oz E., Sahin Y.  
PHYSICA SCRIPTA, vol.66, no.4, pp.289-292, 2002 (SCI-Expanded)
- XXXVII. **K-shell X-ray production cross-sections and fluorescence yields in some medium-Z elements**  
Ozdemir Y., Durak R., Oz E.  
RADIATION PHYSICS AND CHEMISTRY, vol.65, no.3, pp.199-204, 2002 (SCI-Expanded)
- XXXVIII. **Measurement of radiative vacancy distributions for the L-2, L-3 subshell and M shell of some elements with atomic range  $41 \leq Z \leq 68$**   
Caliskan B., Ertugrul A., Oa E., Erdogan H.  
JOURNAL OF QUANTITATIVE SPECTROSCOPY & RADIATIVE TRANSFER, vol.74, no.2, pp.139-146, 2002 (SCI-Expanded)
- XXXIX. **Determination of the coating thicknesses due to the scattered radiation in energy dispersive X-ray fluorescence spectrometry**  
Ekinci N., Kurucu Y., Oz E., Sahin Y.  
RADIATION MEASUREMENTS, vol.35, no.3, pp.223-227, 2002 (SCI-Expanded)
- XL. **Measurement of the K-alpha and K-beta X-rays polarization degree and polarization effect on the K-beta/K-alpha intensity ratio**  
Ertugrul M., Simsek O., Dogan O., Oz E., Sogut O., Turgut U.  
NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION B-BEAM INTERACTIONS WITH MATERIALS AND ATOMS, vol.179, no.4, pp.465-468, 2001 (SCI-Expanded)
- XLI. **Measurement of atomic L shell Coster-Kronig yields ( $f(12)$ ,  $f(23)$  and  $f(13)$ ) for some elements in the atomic number range  $59 \leq Z \leq 90$**   
Oz E., Ekinci N., Ozdemir Y., Ertugrul M., Sahin Y., Erdogan H.  
JOURNAL OF PHYSICS B-ATOMIC MOLECULAR AND OPTICAL PHYSICS, vol.34, no.4, pp.631-638, 2001 (SCI-Expanded)
- XLII. **Measurement of sample thickness by an intensity ratio method**  
Ekinci N., Oz E., Kurucu Y., Sahin Y.  
INSTRUMENTATION SCIENCE & TECHNOLOGY, vol.29, no.2, pp.145-151, 2001 (SCI-Expanded)
- XLIII. **Measurement of foil and cable thicknesses by a transmission method**  
Ekinci N., Oz E., Kurucu Y., Sahin Y.  
INSTRUMENTATION SCIENCE & TECHNOLOGY, vol.29, no.5, pp.415-421, 2001 (SCI-Expanded)

- XLIV. **Measurement of atomic L shell fluorescence ( $\omega(1), \omega(2), \omega(3)$ ) and Auger( $a(1), a(2)$  and  $a(3)$ ) yields for some elements in the atomic number range  $59 \leq Z \leq 85$**   
 Oz E., Ozdemir Y., Ekinci N., Ertugrul M., Sahin Y., Erdogan H.  
 SPECTROCHIMICA ACTA PART B-ATOMIC SPECTROSCOPY, vol.55, no.12, pp.1869-1877, 2000 (SCI-Expanded)
- XLV. **Calculation of average L shell fluorescence yields for the elements with  $25 \leq Z \leq 101$**   
 Oz E., Erdogan H., Ertugrul M.  
 JOURNAL OF RADIOANALYTICAL AND NUCLEAR CHEMISTRY, vol.242, no.1, pp.219-224, 1999 (SCI-Expanded)
- XLVI. **Calculation of average M shell fluorescence yields for elements with  $29 \leq Z \leq 100$**   
 Oz E., Erdogan H., Ertugrul M.  
 X-RAY SPECTROMETRY, vol.28, no.3, pp.198-202, 1999 (SCI-Expanded)

## Articles Published in Other Journals

- I. **Case Study for Thermo Mechanical Performance of an Integrated Optic Device via Equation-Based Modelling**  
 Dönertaş S., Gökkavas M., Özbay E., Orhan E.  
 Journal of Science:Part A Engineering and Innovation, vol.8, no.1, pp.135-145, 2021 (Peer-Reviewed Journal)
- II. **Investigation of low-frequency dependent characteristics of Al/Maleic Anhydride (MA)/p-Si Schottky barrier diode**  
 Orhan E., Bilge Ocak S., Selçuk A. B.  
 AIP Conference Proceedings, vol.1935, no.1, pp.1-5, 2018 (Peer-Reviewed Journal)
- III. **Dielectric Properties of Al Poly methyl methacrylate PMMA p Si Structures at Temperatures Below 300 K**  
 Orhan E., Bilge Ocak S.  
 Procedia - Social and Behavioral Sciences, vol.195, pp.1740-1745, 2015 (Peer-Reviewed Journal)
- IV. **Experimental Study of Effects of Ultrasonic Waves on Heat Distribution in Gaseous Medium**  
 Köprü M., Orhan E., Bilge Ocak S.  
 Procedia - Social and Behavioral Sciences, vol.195, pp.2849-2858, 2015 (Peer-Reviewed Journal)
- V. **Benzocyclobutene BCB 4022 35 Single Mode Rib Waveguides**  
 ORHAN E., EKİNCİ N., ÖZDEMİR Y., ERTUĞRUL M., ŞAHİN Y., ERDOĞAN H.  
 Lecture Notes on Photonics and Optoelectronics, vol.1, no.1, pp.14-17, 2013 (Peer-Reviewed Journal)
- VI. **Benzocyclobutene BCB 4022 35 Polymer Thin Films by Spin Coating Method**  
 ORHAN E., EKİNCİ N., ÖZDEMİR Y., ERTUĞRUL M., ŞAHİN Y., ERDOĞAN H.  
 Lecture Notes on Photonics and Optoelectronics, vol.1, no.1, pp.9-13, 2013 (Peer-Reviewed Journal)
- VII. **Measurements of K shell fluorescence yields for Ti V Cr Fe Co Ni and Cu elements and their halogen compounds**  
 EKİNCİ N., KURUCU Y., ORHAN E., ŞAHİN Y.  
 Turkish Journal of Physics, 2009 (Scopus)
- VIII. **Effect of single dose alcohol administration on malondialdehyde, glutathione, total protein and hydroxyproline levels of rat liver**  
 DİNCER S., ORHAN E., Ozenirler S.  
 Turkish Journal of Gastroenterology, vol.10, no.1, pp.1-3, 1999 (Scopus)
- IX. **The protective effect of Ginkgo biloba extract on CCl4-induced hepatic damage**  
 Özenirler S., DİNCER S., AKYOL G., ÖZOĞUL C., ORHAN E.  
 Acta Physiologica Hungarica, vol.85, no.3, pp.277-285, 1997 (Scopus)
- X. **Does a single dose of alcohol cause oxidative stress in the pancreas?**  
 ÖZTÜRK Z., DİNCER S., Ozenirler S., CİNDORUK M., DOĞAN Ü., AKYOL G., ORHAN E., Kandilci U., Baboglu A.  
 Turkish Journal of Gastroenterology, vol.8, no.2, pp.171-174, 1997 (Scopus)

## Books & Book Chapters

- I. **FİZİK PRENSİPLERİ İŞİĞİNDA TERMODİNAMİK VE YASALARI – II**  
ORHAN E.  
in: TEORİDEN UYGULAMAYA FİZİK VE MATEMATİK ALANINDA AKADEMİK ÇALIŞMALAR, ELİF ORHAN, Editor, IKSAD, Ankara, pp.56-102, 2022
- II. **FİZİK PRENSİPLERİ İŞİĞİNDA TERMODİNAMİK VE YASALARI – I**  
ORHAN E.  
in: TEORİDEN UYGULAMAYA FİZİK VE MATEMATİK ALANINDA AKADEMİK ÇALIŞMALAR, ELİF ORHAN, Editor, IKSAD, Ankara, pp.1-56, 2022
- III. **BİLİMSEL ÇALIŞMALARDA VE TEKNOLOJİK UYGULAMALARDA GRAFEN**  
Orhan E., Yazıcı D.  
in: Enerji Araştırmaları, Doç. Dr. Süleyman NEŞELİ, Editor, İksad Yayınevi, Ankara, pp.126-163, 2020
- IV. **Gamma-ray irradiation investigation on the electrical properties of PMMA/ZnO deposited on p-type silicon**  
Gökmen U., Bilge Ocak S., Orhan E.  
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- V. **A comparison the electrical properties of PbO and PMMA/PbO deposited on p-type silicon**  
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## Refereed Congress / Symposium Publications in Proceedings

- I. **Capacitance-Voltage and Conductance-Voltage Characteristics of Schottky Diode Based Graphene Nanosheet**  
Efil E., Bayram Ö., Orhan E., Bilge Ocak S.  
IATENS'19, Konya, Turkey, 4 - 06 October 2019
- II. **Electrical Characteristics of Al/Graphene/Laser Patterned P Type Si Schottky Diode**  
Orhan E., Bilge Ocak S.  
IATENS'19, Konya, Turkey, 4 - 06 October 2019, pp.6-7
- III. **Current-Voltage Characteristics of Graphene Nanosheet Schottky Diode**  
Efil E., Bayram Ö., Orhan E., Bilge Ocak S.  
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- IV. **PECVD Grown Graphen Nanosheets onto Laser Patterned P Type Si**  
Kaymak N., Bayram Ö., Bilge Ocak S., Orhan E.  
IATENS'19, Konya, Turkey, 4 - 06 October 2019, pp.8-9
- V. **A comparison the electrical properties of PbO and PMMA/PbO deposited on p-type silicon**  
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- VI. **Gamma-ray irradiation investigation on the electrical properties of PMMA/ZnO deposited on p-type silicon**  
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- VII. **Raman Amplifier Possibility of Optical Steganography for Secure Communication**  
BERBEROĞLU H., ORHAN E.  
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- VIII. **Frequency dependent effects before and after gamma-ray irradiation on Al/C42H28/p-Si structure**  
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- IX. **Investigation of gamma-ray irradiation effects on dielectric properties of rubrene deposited on p-type silicon**  
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- X. **A study of gamma-ray irradiation effect on electrical characteristic of the metal-polymer-semiconductor structure**  
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- XI. **An Investigation of the Electrical Properties of PbO Based MOS-Type Different Schottky Barrier Diodes on A Structure**  
Kaymak N., Oz Orhan E., Ocak S. B., Selcuk B.  
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- XII. **Investigation of Low-Frequency Dependent Characteristics of Al/Maleic Anhydride (MA)/p-Si Schottky Barrier Diode**  
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- XIII. **Determination of balance degree of spinning gyro disk by using optical feedback interferometry**  
Candan C., Tiken M., ORHAN E., Berberoglu H.  
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- XIV. **Optik Geri Besleme Girişim Tekniği İle Mikron Ölçekte Titreşimlerin Mutlak Yerdeğiştirme Hareketinin Belirlenmesi**  
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- XV. **Dielectric Properties of Hetero-Structures Based on ZnO**  
BİLGE OCAK S., ORHAN E., SELÇUK A. B.  
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- XVI. **High Frequency Characteristics of Organic Thin Films on Si**  
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- XVII. **Design and Fabrication of Green Laser Designator Prototype**  
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- XVIII. **Investigation of Low Frequency- Dependent Characteristics of PBO Thin Films**  
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- XIX. **Low Frequency Dependent Dielectric Properties of Al/MA/P-Si Structures**  
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- XX. **ANALYSIS OF DIODE PARAMETERS USING HIGH FREQUENCY-DEPENDENT CHARACTERISTICS OF**

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- XXI. **High-Frequency Characteristics of MOS structures**  
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- XXII. **Analysis of Low Frequency-Dependent Series Resistance and Interface States of Al/ZnO/P-Structures**  
ORHAN E., TAŞCI U., SELÇUK A. B., BİLGE OCAK S.  
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- XXIII. **Characterization of Electrical Properties of Al/ZnO/P-Si Structures**  
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- XXIV. **Electrical Analysis of Al/PbO/P-Si Structures**  
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- XXV. **Investigation of Electrical Characteristics of Al/Maleic Anhydride/P-Si by Using Different Methods**  
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- XXVI. **Frequency Dependent Dielectric Properties of Heterogeneous Structure**  
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- XXXII. **Determination of Average Fluorescence Yields of N Shell for Elements 38 101**  
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- XXXIV. **Electrical and Dielectric Characteristics of Maleic Anhydride Deposited on P Type Silicon**  
kalmaz o., ORHAN E., BİLGE OCAK S.  
IPCAP 2016, 25 - 27 February 2016
- XXXV. **Dielectric Properties of Al Poly methyl methacrylate PMMA p Si Structures at Temperatures Below 300 K**  
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- DEVELOPMENT, İstanbul, Turkey, 28 - 30 May 2015, pp.15-30
- XXXVI. **A compact green laser by second harmonic generation**  
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- XXXVII. **Experimental Study of Effects of Ultrasonic Waves on Heat Distribution in Gaseous Medium**  
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- XXXVIII. **Fabrication and Characterization of Silicon Nitride ThinFilms by Plasma Enhancement Chemical  
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- ORHAN E., Project Supported by Higher Education Institutions, Kızılötesi (IR) Hassas Fotodetektör Tasarımı ve Üretimi, 2020 - Continues
- Orhan E., Berberoğlu H., Aras F. G., Project Supported by Higher Education Institutions, Dinlenemeyen Fiber Optik Ağların Kurulması, 2015 - 2018
- ORHAN E., Project Supported by Higher Education Institutions, Nd YVO4 Lazer Kristali ve Mgo PPLN SHG Kristali İle Yeşil Lazer Tasarımı Karakterizasyonu ve Uygulama Alanları, 2015 - 2017
- ORHAN E., Project Supported by Higher Education Institutions, Stressiz SiN Filmlerin Plazma Destekli Kimyasal Buhar Yöntemi İle Üretimi ve Optik Karakterizasyonu, 2012 - 2015
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- Orhan E., Project Supported by Higher Education Institutions, Jeolojik Numunelerde Karakteristik X Işınları Üzerine Kararlı Pellet Oluşumunun Etkisinin WD XRF Spektrometreyle Belirlenmesi, 2010 - 2011
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## Activities in Scientific Journals

FRONTIERS IN NUTRITION, Committee Member, 2022 - Continues

Gazi University Journal of Science Part A: Engineering and Innovation, Assistant Editor/Section Editor, 2020 - Continues

## Memberships / Tasks in Scientific Organizations

ULUSAL AJANS, Consultant, 2010 - Continues, Turkey

## Scientific Refereeing

TUBITAK Project, 1501 - Industry R & D Projects Support Program, xxx, Turkey, October 2021

Journal Of Materials Science-Materials In Electronics, SCI Journal, October 2020

JOURNAL OF MATERIALS SCIENCE-MATERIALS IN ELECTRONICS, SCI Journal, August 2020

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## **Scholarships**

2219, TUBITAK, 2013 - 2014

## **Representation and Promotion Activities**

Institutional Representation, Üniversite, United States Of America, Maryland, 2013 - 2014