

Prof. YASEMİN ŞAFAK ASAR

Personal Information

Office Phone: [+90 312 220 1227](tel:+903122201227) Extension: 21227

Email: yaseminsafak@gazi.edu.tr

Other Email: ysafak81@gmail.com

Web: <https://avesis.gazi.edu.tr/yaseminsafak>

International Researcher IDs

ScholarID: Grb7axsAAAAJ

ORCID: 0000-0002-7718-2856

Publons / Web Of Science ResearcherID: AAY-9804-2021

ScopusID: 35091537200

Yoksis Researcher ID: 45997

Education Information

Doctorate, Gazi University, Fen Bilimleri Enstitüsü, Fizik (Dr), Turkey 2007 - 2012

Postgraduate, Gazi University, Fen Bilimleri Enstitüsü, Fizik (YI) (Tezli), Turkey 2004 - 2007

Undergraduate, Gazi University, Fen Fakültesi, Fizik Bölümü, Turkey 1999 - 2003

Foreign Languages

English, B2 Upper Intermediate

Dissertations

Doctorate, (Ni/Au)/Al_{0.22}Ga_{0.78}N/AlN/GaN çoklu-yapıların elektriksel karakteristiklerinin admittans spektroskopi metoduyla incelenmesi, Gazi University, Fen Bilimleri Enstitüsü, Fizik (Dr), 2012

Postgraduate, 2-fenilfuran molekülünün yapısal, elektronik ve çizgisel olmayan optik özelliklerinin teorik incelenmesi, Gazi University, Fen Bilimleri Enstitüsü, Fizik (YI) (Tezli), 2007

Research Areas

Physics, Natural Sciences

Academic Titles / Tasks

Professor, Gazi University, Fen Fakültesi, Fizik, 2023 - Continues

Associate Professor, Gazi University, Fen Fakültesi, Fizik, 2017 - 2023

Research Assistant PhD, Gazi University, Fen Fakültesi, Fizik, 2012 - 2017

Research Assistant, Gazi University, Fen Fakültesi, Fizik, 2009 - 2012

Academic and Administrative Experience

Deputy Head of Department, Gazi University, Fen Fakültesi, Fizik, 2023 - Continues
Deputy Director of the Center, Gazi University, Fen Fakültesi, Fizik, 2022 - Continues
Bölüm Kalite Komisyonu Başkanı, Gazi University, Fen Fakültesi, Fizik, 2018 - 2021
Birim Kalite Komisyonu Üyesi, Gazi University, Fen Fakültesi, Fizik, 2018 - 2021

Courses

İLERİ ELEKTROMANYETİK TEORİ II, Doctorate, 2022 - 2023
Fizik I, Undergraduate, 2022 - 2023
FİZİK-II, Undergraduate, 2021 - 2022
PHYSICS I, Undergraduate, 2022 - 2023
DENEYSEL ÖLÇÜM TEKNİKLERİ, Undergraduate, 2022 - 2023
Fizik II, Undergraduate, 2021 - 2022
Phycis II, Undergraduate, 2020 - 2021
İleri Elektromanyetik Teori II, Doctorate, 2020 - 2021
Physics II, Undergraduate, 2020 - 2021
Physics I, Undergraduate, 2020 - 2021
Phycis I, Undergraduate, 2020 - 2021
FİZ156 Fizik Laboratuvarı, Undergraduate, 2017 - 2018

Advising Theses

ŞAFAK ASAR Y., Preparation Of Al/P-Si (Ms) And Al/Tio₂/P-Si (M₁S) Structures And Investigation Of Electrical Characteristics By Darkness And Under Illumination, Postgraduate, B.ZERDALI(Student), 2019

Jury Memberships

Appointment to Academic Staff-Assistant Professorship, Appointment Academic Staff, Beykent Üniversitesi, May, 2020

Published journal articles indexed by SCI, SSCI, and AHCI

- I. Frequency-dependent electrical parameters and extracted voltage-dependent surface states in Al/DLC/p-Si structure using the conductance method
ŞAFAK ASAR Y., Feizollahi Vahid A., Basman N., ÇETİNKAYA H. G., ALTINDAL Ş.
Applied Physics A: Materials Science and Processing, vol.129, no.5, 2023 (SCI-Expanded)
- II. The investigation of frequency dependent dielectric properties and ac conductivity by impedance spectroscopy in the Al/(Cu-doped Diamond Like Carbon)/Au structures
Feizollahi Vahid A., Alptekin S., Basman N., ULUSOY M., ŞAFAK ASAR Y., ALTINDAL Ş.
Journal of Materials Science: Materials in Electronics, vol.34, no.13, 2023 (SCI-Expanded)
- III. Investigation of dielectric relaxation and ac conductivity in Au/(carbon nanosheet-PVP composite)/n-Si capacitors using impedance measurements
ŞAFAK ASAR Y., SEVGİLİ Ö., ALTINDAL Ş.
Journal of Materials Science: Materials in Electronics, vol.34, no.10, 2023 (SCI-Expanded)
- IV. On the wide range frequency and voltage dependence of electrical features and density of surface states of the Al/(Cu:DLC)/p-Si/Au Schottky diodes (SDs)
ÇETİNKAYA H. G., Feizollahi Vahid A., Basman N., Demirezen S., ŞAFAK ASAR Y., ALTINDAL Ş.
Journal of Materials Science: Materials in Electronics, vol.34, no.9, 2023 (SCI-Expanded)
- V. Influence of graphene doping rate in PVA organic thin film on the performance of Al/p-Si structure

- Yeriskin S., ŞAFAK ASAR Y.
JOURNAL OF MATERIALS SCIENCE-MATERIALS IN ELECTRONICS, vol.32, no.18, pp.22860-22867, 2021 (SCI-Expanded)
- VI. **Investigation of dielectric relaxation and ac electrical conductivity using impedance spectroscopy method in (AuZn)/TiO₂/p-GaAs(110) schottky barrier diodes**
ŞAFAK ASAR Y., ASAR T., ALTINDAL Ş., ÖZÇELİK S.
JOURNAL OF ALLOYS AND COMPOUNDS, vol.628, pp.442-449, 2015 (SCI-Expanded)
- VII. **Dielectric spectroscopy studies and ac electrical conductivity on (AuZn)/TiO₂/p-GaAs(110) MIS structures**
ŞAFAK ASAR Y., ASAR T., ALTINDAL Ş., ÖZÇELİK S.
PHILOSOPHICAL MAGAZINE, vol.95, no.26, pp.2885-2898, 2015 (SCI-Expanded)
- VIII. **On the Voltage and Frequency Distribution of Dielectric Properties and ac Electrical Conductivity in Al/SiO₂/p-Si (MOS) Capacitors**
Kaya A., ALTINDAL Ş., ŞAFAK ASAR Y., Sonmez Z.
CHINESE PHYSICS LETTERS, vol.30, no.1, 2013 (SCI-Expanded)
- IX. **Investigation of interface states in Al/SiO₂/p-Si (MIS) structures with 50 and 826 angstrom SiO₂ interfacial layer using admittance spectroscopy method**
Altindal S., Asar Y., Kaya A., Sonmez Z.
JOURNAL OF OPTOELECTRONICS AND ADVANCED MATERIALS, vol.14, pp.998-1004, 2012 (SCI-Expanded)
- X. **Temperature dependent negative capacitance behavior of Al/rhodamine-101/n-GaAs Schottky barrier diodes and R-s effects on the C-V and G/omega-V characteristics**
VURAL Ö., ŞAFAK ASAR Y., Turut A., ALTINDAL Ş.
JOURNAL OF ALLOYS AND COMPOUNDS, vol.513, pp.107-111, 2012 (SCI-Expanded)
- XI. **On the energy distribution of interface states and their relaxation time profiles in Al/pentacene/p-GaAs heterojunction diode**
ŞAFAK ASAR Y., SOYLU M., YAKUPHANOĞLU F., ALTINDAL Ş.
JOURNAL OF APPLIED PHYSICS, vol.111, no.3, 2012 (SCI-Expanded)
- XII. **Effects of illumination on I-V, C-V and G/w-V characteristics of Au/n-CdTe Schottky barrier diodes**
Kanbur H., Altindal Ş., Mammadov T., Safak Y.
JOURNAL OF OPTOELECTRONICS AND ADVANCED MATERIALS, vol.13, pp.713-718, 2011 (SCI-Expanded)
- XIII. **Current transport mechanisms and trap state investigations in (Ni/Au)-AlN/GaN Schottky barrier diodes**
Arslan E., Butun S., ŞAFAK ASAR Y., Cakmak H., Yu H., ÖZBAY E.
MICROELECTRONICS RELIABILITY, vol.51, no.3, pp.576-580, 2011 (SCI-Expanded)
- XIV. **Electrical characterization of MS and MIS structures on AlGaN/AlN/GaN heterostructures**
Arslan E., Butun S., ŞAFAK ASAR Y., Uslu H., Tascioglu I., ALTINDAL Ş., ÖZBAY E.
MICROELECTRONICS RELIABILITY, vol.51, no.2, pp.370-375, 2011 (SCI-Expanded)
- XV. **Investigation of Trap States in AlInN/AlN/GaN Heterostructures by Frequency-Dependent Admittance Analysis**
Arslan E., Butun S., ŞAFAK ASAR Y., ÖZBAY E.
JOURNAL OF ELECTRONIC MATERIALS, vol.39, no.12, pp.2681-2686, 2010 (SCI-Expanded)
- XVI. **Frequency and temperature dependence of the dielectric and AC electrical conductivity in (Ni/Au)/AlGaN/AlN/GaN heterostructures**
Arslan E., ŞAFAK ASAR Y., Tascioglu I., Uslu H., ÖZBAY E.
MICROELECTRONIC ENGINEERING, vol.87, no.10, pp.1997-2001, 2010 (SCI-Expanded)
- XVII. **The effect of insulator layer thickness on the main electrical parameters in (Ni/Au)/Al_xGa_{1-x}N/AlN/GaN heterostructures**
ALTINDAL Ş., ŞAFAK ASAR Y., Tascioglu I., ÖZBAY E.
SURFACE AND INTERFACE ANALYSIS, vol.42, pp.803-806, 2010 (SCI-Expanded)
- XVIII. **Frequency dependent electrical characteristics of (Ni/Au)/AlGaN/AlN/GaN heterostructures**
Tascioglu I., Uslu H., Safak Y., Ozbay E.

- OPTOELECTRONICS AND ADVANCED MATERIALS-RAPID COMMUNICATIONS, vol.4, no.6, pp.859-862, 2010 (SCI-Expanded)
- XIX. **Temperature-dependent profile of the surface states and series resistance in (Ni/Au)/AlGaN/AlN/GaN heterostructures**
 Tascioglu I., AYDEMİR U., Safak Y., Ozbay E.
 SURFACE AND INTERFACE ANALYSIS, vol.42, pp.812-815, 2010 (SCI-Expanded)
- XX. **Current-voltage characteristics of Al/Rhodamine-101/n-GaAs structures in the wide temperature range**
 Vural O., Safak Y., Altindal Ş., Turut A.
 CURRENT APPLIED PHYSICS, vol.10, no.3, pp.761-765, 2010 (SCI-Expanded)
- XXI. **Temperature dependent negative capacitance behavior in (Ni/Au)/AlGaN/AlN/GaN heterostructures**
 Arslan E., ŞAFAK ASAR Y., ALTINDAL Ş., Kelekci O., ÖZBAY E.
 JOURNAL OF NON-CRYSTALLINE SOLIDS, vol.356, pp.1006-1011, 2010 (SCI-Expanded)
- XXII. **The effect of frequency and illumination intensity on the main electrical characteristics of Al-TiW-Pd₂Si/n-Si structures at room temperature**
 Uslu H., Safak Y., Tascioglu I., Altindal Ş.
 JOURNAL OF OPTOELECTRONICS AND ADVANCED MATERIALS, vol.12, no.2, pp.262-266, 2010 (SCI-Expanded)

Articles Published in Other Journals

- I. **Grafen Katkılı PVA Ara Yüzey Tabakalı Metal/Yarı İletken Yapıların Hazırlanması ve Dielektrik Özelliklerinin İncelenmesi**
 Altindal Yerişkin S., ŞAFAK ASAR Y.
 Gazi Üniversitesi Fen Fakültesi Dergisi, 2020 (Peer-Reviewed Journal)
- II. **On the temperature dependent reverse current conduction mechanisms in (AuZn)/TiO₂/p-GaAs MIS structures**
 ŞAFAK ASAR Y.
 Journal of Materials and Electronic Devices 4(2020) 14-20, 2020 (Peer-Reviewed Journal)
- III. **A comparative of energy density distribution of surface states profiles with 50 and 826 Å insulator layer in Al SiO₂ p Si**
 ALTINDAL Ş., KAYA A., SÖNMEZ Z., ŞAFAK ASAR Y.
 Azerbaijan Journal of Physics, Fizika, (ISSN 1028-8546), vol.16, no.2, pp.356-358, 2010 (Peer-Reviewed Journal)
- IV. **Effect of gamma ray 60Co irradiation on the C V and G w caharacteristics of Au n CdTe Schottky barrier sidodes SBDs**
 ŞAFAK ASAR Y., KANBUR ÇAVUŞ H., USLU H., MAMMADOV T.
 Azerbaijan Journal of Physics, Fizika, (ISSN 1028-8546), vol.16, no.2, pp.364-366, 2010 (Peer-Reviewed Journal)
- V. **Frequency Dependent Electrical Characteristics of Metal Ferroelectric Semiconductor Au SrTiO₃ n Si Structures**
 AYDEMİR U., ŞAFAK ASAR Y., ALTINDAL Ş., AGASİYEV A. A.
 Journal of Optoelectronics and Advanced Materials - Symposia, vol.1, no.3, pp.258-261, 2009 (Peer-Reviewed Journal)
- VI. **Temperature Dependent Electrical Characteristics of Metal Ferroelectric Semiconductor Au SrTiO₃ n Si Structures**
 ŞAFAK ASAR Y., AYDEMİR U., ALTINDAL Ş., MAMMADOV T. S., TATAROĞLU A.
 Journal of Optoelectronics and Advanced Materials - Symposia, vol.1, no.3, pp.266-269, 2009 (Peer-Reviewed Journal)
- VII. **On the Frequency and Voltage Dependent Interface States and Series Resistance in Au SrTiO₃ n Si Structures**
 AYDEMİR U., ŞAFAK ASAR Y., MAMMADOV T. S., ALTINDAL Ş.
 Balkan Physics Letters, vol.15, no.1, pp.151050, 2009 (Peer-Reviewed Journal)

- VIII. **The Barrier Height Distribution in Metal Ferroelectric Semiconductor Au SrTiO₃ n Si Structures**
 ŞAFAK ASAR Y., AYDEMİR U., ALTINDAL Ş., MAMMADOV T.
 Balkan Physics Letters, vol.15, no.1, pp.151056, 2009 (Peer-Reviewed Journal)
- IX. **Frequency and Temperature Dependent Interface States and Series Resistance of Au CdTe Schottky Diodes**
 MAMMADOV T. S., KANBUR ÇAVUŞ H., ŞAFAK ASAR Y., ALTINDAL Ş., ACAR S., AKHMEDZADE N. D.
 Azerbaijan Journal of Physics, Fizika, vol.13, no.4, pp.219-223, 2007 (Peer-Reviewed Journal)

Refereed Congress / Symposium Publications in Proceedings

- I. **Polimer ara yüzeyli yapılar ve aygit özelliklerinin belirlenmesi**
 ŞAFAK ASAR Y.
 25. Yoğun Madde Fiziği ankara Toplantısı YMF25, Turkey, 20 December 2019
- II. **A compare study on the electrical characteristics of Al/p-Si (MS) and Al/TiO₂/p-Si (MIS) structures both in dark and under illumination**
 Zerdali B., ŞAFAK ASAR Y., ORAK İ.
 5th International conference on materials science and advanced-nanotechnologies for next generation (MSNG2018), 4 - 06 October 2018
- III. **On the anomalous peak in the capacitance-voltage characteristics of Au/TiO₂/n-Si (MIS) structures at the depletion and accumulation region**
 ŞAFAK ASAR Y., Erkul Y. A., Zerdali B., ORAK İ.
 5th International conference on materials science and nanotechnology for next generation (MSNG2018), 4 - 06 October 2018
- IV. **The Investigation of Photoconducting Properties of Au TiO₂ n Si MIS Type Photodiode by Using Current Voltage Characteristics at Room Temperature**
 ŞAFAK ASAR Y., ALTINDAL Ş.
 International Physics Conference at the Anatolian Peak, 25 - 27 February 2016
- V. **The Investigation of Photocapacitor Properties of Au TiO₂ n Si MIS Type Photodiode by Using Impedance Measurements at Room Temperature**
 ŞAFAK ASAR Y., ALTINDAL Ş.
 International Physics Conference at the Anatolian Peak, 25 - 27 February 2016
- VI. **The investigation of photocapacitor properties of Au TiO₂ n Si MIS type photodiode bu using impedance measurements at room temperature**
 ŞAFAK ASAR Y., ALTINDAL Ş.
 International Physics Conference at the Anatolian Peak, 25 - 27 February 2016
- VII. **The investigation of photoconducting properties of Au TiO₂ n Si MIS type photodiode by using current voltage characteristics at room temperature**
 ŞAFAK ASAR Y., ALTINDAL Ş.
 International Physics Conference at the Anatolian Peak, 25 - 27 February 2016
- VIII. **ALD Tekniği ile oluşturulan Au/TiO₂/n-Si diyotların elektriksel ve foto-iletim özelliklerinin oda sıcaklığında incelenmesi**
 ŞAFAK ASAR Y., ALTINDAL Ş.
 21. Yoğun Madde Fiziği Ankara Toplantısı, Turkey, 25 December 2015
- IX. **AuZn TiO₂ p GaAs 110 Schottky Bariyer Diyotlarda Dielektrik ve Empedans Spektroskopisi**
 ŞAFAK ASAR Y., ASAR T., ÖZÇELİK S., ALTINDAL Ş.
 20. Yoğun Madde Fiziği Ankara Toplantısı, Ankara, Turkey, 26 December 2014, pp.79
- X. **Au/TiO₂/n-Si Diyotlarda aydınlatma şiddetinin doğru ve ters beslem C-V ve G/Δ-V karakteristikler üzerine etkisinin incelenmesi**
 ALTINDAL Ş., ŞAFAK ASAR Y., ORAK İ.
 21. Yoğun Madde Fiziği Ankara Toplantısı, Turkey, 25 December 2015

- XI. **The energy density distribution of interface states in AuZn TiO₂ p GaAs 110 MIS schottky barrier diodes using admittance spectroscopy**
ŞAFAK ASAR Y., ALTINDAL Ş.
 Türk Fizik Derneği 31. Uluslararası Fizik Kongresi, 21 - 24 July 2014
- XII. **The frequency dependence properties of tan M and M in the wide frequency range in AuZn TiO₂ p GaAs 110 schottky barrier diodes**
ŞAFAK ASAR Y., ALTINDAL Ş.
 Türk Fizik Derneği 31. Uluslararası Fizik Kongresi, 21 - 24 July 2014
- XIII. **The evaluation of Surface States Barrier Height and Series Resistance in Au CdTe Schottky Barrier Diodes SBDs at Moderate Temperatures**
ŞAFAK ASAR Y., ALTINDAL Ş., MEMMEDLİ T., KANBUR ÇAVUŞ H.
 Türk Fizik Derneği 28. Uluslararası Fizik Kongresi, 6 - 09 September 2011
- XIV. **On the Energy Density Distribution Profile of surface States in Al pentacene p GaSa Heterojunction Diodes**
ŞAFAK ASAR Y., YAKUPHANOĞLU F., ALTINDAL Ş.
 Mini-Workshop on Surface Science for Inauguration of the Turkish Surface Science Society, Turkey, 23 May 2011
- XV. **The determination of frequency and applied bias voltage of electrical and dielectric properties of Al SiO₂ p Si MOS structures**
ALTINDAL Ş., ŞAFAK ASAR Y., SÖNMEZ Z., KAYA A.
 Türk Fizik Derneği 27. Uluslararası Fizik Kongresi, 14 - 17 September 2010
- XVI. **The determination of energy density distribution profile of interface states in Al SiO₂ p Si MOS structures**
ŞAFAK ASAR Y., ALTINDAL Ş., Sönmez Z., KAYA A.
 Türk Fizik Derneği 27. Uluslararası Fizik Kongresi, 14 - 17 September 2010
- XVII. **Au SrTiO₃ n Si Yapılarındaki Derin Seviyelerin Tavlamaya Bağlı DLTS Metodu ile Karakterizasyonu**
AYDEMİR U., TAŞÇIOĞLU İ., ASAR T., ŞAFAK Y., ALTINDAL Ş., MAMMADOV T. S., ÖZCELİK S.
 16. Yoğun Madde Fiziği Ankara Toplantısı, Ankara, Turkey, 06 November 2009, pp.92
- XVIII. **Temperature dependent profile of the surface states and series resistance in Ni Au AlGaN AlN GaN heterostructures**
TAŞÇIOĞLU İ., Aydemir U., ŞAFAK ASAR Y., ÖZBAY E.
 13th European Conference on Applications of Surface and Interface Analysis, 18 - 23 October 2009
- XIX. **The profile of frequency and bias voltage dependent series resistance and the interface states in Ni Au AlGaN AlN GaN heterostructures**
ŞAFAK ASAR Y., ÖZCELİK S., USLU H., ÖZBAY E.
 13th European Conference on Applications of Surface and Interface Analysis, Turkey, 18 - 23 October 2009
- XX. **The effect of insulator layer thickness on the main electrical parameters in Ni Au Al_xGa_{1-x}N AlN GaN heterostructures**
ALTINDAL Ş., ŞAFAK ASAR Y., TAŞÇIOĞLU İ., ÖZBAY E.
 13th European Conference on Applications of Surface and Interface Analysis, 18 - 23 October 2009
- XXI. **Deep level transient spectroscopy of Au SrTiO₃ n Si structures**
AYDEMİR U., ŞAFAK ASAR Y., ALTINDAL Ş.
 Türk Fizik Derneği 26. Uluslararası Fizik Kongresi, 24-27 Eylül 2009, 24 - 27 September 2009
- XXII. **Frequency Dependent Electrical Characteristics of Ni Au AlGaN AlN GaN Heterostructures**
TAŞÇIOĞLU İ., USLU H., ŞAFAK ASAR Y., TATAROĞLU A., ÖZBAY E.
 7th BPU General Conference, Alexandroupolis, Greece, 9-13 Sept 2009., Greece, 9 - 13 September 2009
- XXIII. **The effects of frequency and illumination intensity on the main electrical characteristics of Al TiW Pd₂Si n Si structures at room temperature**
USLU H., ŞAFAK ASAR Y., TAŞÇIOĞLU İ., AFANDİYEVA İ. M.
 7th BPU General Conference, Alexandroupolis, Greece, 9-13 Sept 2009., Greece, 9 - 13 September 2009
- XXIV. **Ni Au AlGaN AlN GaN Çoklu Yapıların Ara Yüzey Durum Yoğunluğu Profili**
ŞAFAK ASAR Y., USLU H., TAŞÇIOĞLU İ., ÖZBAY E.

Metal, Yarıiletken ve Oksit Materyallerin Üretiminde Kullanılan Sistemler ve Analiz Teknikleri Kongresi, Turkey, 15 - 16 June 2009

XXV. Püskürme Metodu ile Hazırlanmış Metal Ferroelektrik Yarıiletken Yapılarda Seri Direnç Etkisinin Sıcaklığa Bağlı İncelenmesi

Aydemir U., USLU H., TAŞÇIOĞLU İ., ŞAFAK ASAR Y.

Metal, Yarıiletken ve Oksit Materyallerin Üretiminde Kullanılan Sistemler ve Analiz Teknikleri Kongresi, Turkey, 15 - 16 June 2009

Activities in Scientific Journals

Gazi Üniversitesi Fen Fakültesi Dergisi, Editor, 2020 - Continues

Scientific Refereeing

JOURNAL OF ALLOYS AND COMPOUNDS, SCI Journal, April 2018

JOURNAL OF ALLOYS AND COMPOUNDS, SCI Journal, February 2016

JOURNAL OF ALLOYS AND COMPOUNDS, SCI Journal, December 2015

JOURNAL OF ALLOYS AND COMPOUNDS, SCI Journal, July 2015

Metrics

Publication: 58

Citation (WoS): 521

Citation (Scopus): 458

H-Index (WoS): 12

H-Index (Scopus): 11

Non Academic Experience

Gazi Üniversitesi Fen Edebiyat Fakültesi Fizik Bölümü

MEB İbrahim Akoğlu İlköğretim Okulu