

## Assoc. Prof. YASEMİN ŞAFAK ASAR

### Personal Information

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### 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<sub>0.22</sub>Ga<sub>0.78</sub>N/AlN/GaN çoklu-yapıların elektriksel karakteristiklerinin admitans spektroskopisi 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

Associate Professor, Gazi University, Fen Fakültesi, Fizik Bölümü, 2017 - Continues

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

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

### Courses

Fiz104 Fizik II, Undergraduate, 2017 - 2018

FİZ156 Fizik Laboratuvarı, Undergraduate, 2017 - 2018

### Advising Theses

ŞAFAK ASAR Y., Preparation Of Al/P-Si (Ms) And Al/TiO<sub>2</sub>/P-Si (Mis) Structures And Investigation Of Electrical Characteristics By Darkness And Under Illumination, Postgraduate, B.ZERDALI(Student), 2019

## Jury Memberships

Appointment Academic Staff, Appointment Academic Staff, Beykent Üniversitesi, May, 2020

## Articles Published in Journals That Entered SCI, SSCI and AHCI Indexes

- I. **Influence of graphene doping rate in PVA organic thin film on the performance of Al/p-Si structure**  
Yeriskin S. A. , ŞAFAK ASAR Y.  
JOURNAL OF MATERIALS SCIENCE-MATERIALS IN ELECTRONICS, 2021 (Journal Indexed in SCI)
- II. **Investigation of dielectric relaxation and ac electrical conductivity using impedance spectroscopy method in (AuZn)/TiO<sub>2</sub>/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 (Journal Indexed in SCI)
- III. **Dielectric spectroscopy studies and ac electrical conductivity on (AuZn)/TiO<sub>2</sub>/p-GaAs(110) MIS structures**  
ŞAFAK ASAR Y., ASAR T., ALTINDAL Ş., ÖZÇELİK S.  
PHILOSOPHICAL MAGAZINE, vol.95, no.26, pp.2885-2898, 2015 (Journal Indexed in SCI)
- IV. **On the Voltage and Frequency Distribution of Dielectric Properties and ac Electrical Conductivity in Al/SiO<sub>2</sub>/p-Si (MOS) Capacitors**  
Kaya A., ALTINDAL Ş., ŞAFAK ASAR Y., Sonmez Z.  
CHINESE PHYSICS LETTERS, vol.30, no.1, 2013 (Journal Indexed in SCI)
- V. **Investigation of interface states in Al/SiO<sub>2</sub>/p-Si (MIS) structures with 50 and 826 angstrom SiO<sub>2</sub> 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 (Journal Indexed in SCI)
- VI. **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 (Journal Indexed in SCI)
- VII. **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 (Journal Indexed in SCI)
- VIII. **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 (Journal Indexed in SCI)
- IX. **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 (Journal Indexed in SCI)
- X. **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 (Journal Indexed in SCI)
- XI. **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 (Journal Indexed in SCI)
- XII. **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 (Journal Indexed in SCI)
- XIII. **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  
 (Journal Indexed in SCI)
- XIV. **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 (Journal Indexed in SCI)
- XV. **The effect of insulator layer thickness on the main electrical parameters in (Ni/Au)/Al<sub>x</sub>Ga<sub>1-x</sub>N/AlN/GaN heterostructures**  
 ALTINDAL Ş., ŞAFAK ASAR Y., Tascioglu I., ÖZBAY E.  
 SURFACE AND INTERFACE ANALYSIS, vol.42, pp.803-806, 2010 (Journal Indexed in SCI)
- XVI. **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 (Journal Indexed in SCI)
- XVII. **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 (Journal Indexed in SCI)
- XVIII. **The effect of frequency and illumination intensity on the main electrical characteristics of Al-TiW-Pd<sub>2</sub>Si/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 (Journal Indexed in SCI)

## Articles Published in Other Journals

- I. **Grafen Katkılı PVA Ara Yüzey Tabakalı Metal/Yarı İletken Yapıların Hazırlanması ve Dielektrik Özelliklerinin İncelenmesi**  
 Altındal Yerişkin S., ŞAFAK ASAR Y.  
 Gazi Üniversitesi Fen Fakültesi Dergisi, 2020 (Other Refereed National Journals)
- II. **On the temperature dependent reverse current conduction mechanisms in (AuZn)/TiO<sub>2</sub>/p-GaAs MIS structures**  
 ŞAFAK ASAR Y.  
 Journal of Materials and Electronic Devices4(2020) 14-20, 2020 (Refereed Journals of Other Institutions)
- III. **A comparative of energy density distribution of surface states profiles with 50 and 826 Å insulator layer in Al SiO<sub>2</sub> 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 (Refereed Journals of Other Institutions)
- IV. **Effect of gamma ray <sup>60</sup>Co 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 (Refereed Journals of

Other Institutions)

- V. **Frequency Dependent Electrical Characteristics of Metal Ferroelectric Semiconductor Au SrTiO<sub>3</sub> n Si Structures**  
AYDEMİR U., ŞAFAK ASAR Y., ALTINDAL Ş., AGASIYEV A. A.  
Journal of Optoelectronics and Advanced Materials - Symposia, vol.1, no.3, pp.258-261, 2009 (Refereed Journals of Other Institutions)
- VI. **Temperature Dependent Electrical Characteristics of Metal Ferroelectric Semiconductor Au SrTiO<sub>3</sub> 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 (Refereed Journals of Other Institutions)
- VII. **On the Frequency and Voltage Dependent Interface States and Series Resistance in Au SrTiO<sub>3</sub> n Si Structures**  
AYDEMİR U., ŞAFAK ASAR Y., MAMMADOV T. S. , ALTINDAL Ş.  
Balkan Physics Letters, vol.15, no.1, pp.151050, 2009 (Refereed Journals of Other Institutions)
- VIII. **The Barrier Height Distribution in Metal Ferroelectric Semiconductor Au SrTiO<sub>3</sub> n Si Structures**  
ŞAFAK ASAR Y., AYDEMİR U., ALTINDAL Ş., MAMMADOV T.  
Balkan Physics Letters, vol.15, no.1, pp.151056, 2009 (Refereed Journals of Other Institutions)
- 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 (Refereed Journals of Other Institutions)

## Refereed Congress / Symposium Publications in Proceedings

- I. **Polimer ara yüzeyli yapılar ve aygıt 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/TiO<sub>2</sub>/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/TiO<sub>2</sub>/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 TiO<sub>2</sub> 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 TiO<sub>2</sub> 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 TiO<sub>2</sub> 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 TiO<sub>2</sub> 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/TiO<sub>2</sub>/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 TiO<sub>2</sub> 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/TiO<sub>2</sub>/n-Si Diyotlarda aydınlatma şiddetinin doğru ve ters beslem C-V ve G/∂-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 TiO<sub>2</sub> 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 TiO<sub>2</sub> 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 SiO<sub>2</sub> 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 SiO<sub>2</sub> 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 SrTiO<sub>3</sub> n Si Yapısındaki Derin Seviyelerin Tavlama Bağı DLTS Metodu ile Karakterizasyonu**  
AYDEMİR U., TAŞÇIOĞLU İ., ASAR T., ŞAFAK Y., ALTINDAL Ş., MAMMADOV T. S. , ÖZÇELİK 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., ÖZÇELİK 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 AlxGa1-xN 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 SrTiO<sub>3</sub> n Si structures**

AYDEMİR U., ŞAFAK ASAR Y., ALTINDAL Ş.

Türk Fizik Derneği 26. Uluslar arası Fizik Kongresi, 24-27 Eylül 2009, 24 - 27 September 2009

**XXII. Frequency Dependent Electrical Characteristics of Ni Au AlGa<sub>n</sub> 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 Pd<sub>2</sub>Si 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 AlGa<sub>n</sub> 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. Püskürtme 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

## Citations

Total Citations (WOS):426

h-index (WOS):11