

# NESLIHAN AYARCI KURUOĞLU

## RES. ASST. PHD

Email : nayarci@yildiz.edu.tr

Other Email : neslihanayarci@gmail.com

Address : Yıldız Technical University, Davutpaşa Campus,  
Faculty of Arts and Sciences, Department of Physics, E-1034  
PK: 34220, Esenler / İstanbul / TÜRKİYE

### International Researcher IDs

ScholarID: rt364VAAAAAJ

ORCID: 0000-0002-9659-7280

Publons / Web Of Science ResearcherID: AAK-1174-2020

ScopusID: 57195471836

Yoksis Researcher ID: 137324



## Learning Knowledge

Doctorate  
2012 - 2017

Yildiz Technical University, Graduate School Of Natural And Applied Sciences,  
Physics/Physics, Turkey

Postgraduate  
2009 - 2012

Ege University, Faculty Of Science, Physics department, Turkey

Undergraduate  
2005 - 2009

Manisa Celal Bayar University, Physics , Turkey

## Dissertations

Doctorate, The investigation of electrical properties of long wavelength laser structures, produced via metal-organic chemical vapor deposition technique, Yıldız Technical University, Fizik, 2017

Postgraduate, The examination of heavy ions distribution bombarding with light atomic number, Ege University, Faculty of Science , Physics, 2011

## Academic Titles / Tasks

Research Assistant PhD  
2017 - Continues

Yildiz Technical University, Faculty Of Arts & Science, Department Of Physics

Research Assistant  
2011 - 2017

Yildiz Technical University, Faculty Of Arts & Science, Department Of Physics

## Supported Projects

1. Özdemir O., Ayarci Kuruoğlu N., Mutlu S., Baş H., Ince S., Project Supported by Higher Education Institutions,

- Calculation of Intermediate Transition Energy Levels in Structures Containing Multiple Quantum Wells Based on Gallium Nitride and Their Comparison with Luminescence Experiments, 2022 - 2023
2. AYARCI KURUOĞLU N., baş h., ÖZDEMİR O., BOZKURT K., Project Supported by Higher Education Institutions, Tek tabaka ve çoklu kuantum kuyudan oluşan 10 In katkılı In<sub>x</sub>Ga<sub>1-x</sub>NGaN LED yapıların elektronik optoelektronik özelliklerinin karşılaştırılması, 2021 - 2023
  3. Choi F. P., Ayarçı Kuruoğlu N., Özdemir O., Project Supported by Higher Education Institutions, Production of Functional Metal Oxide Thin Films via Sol-Gel Methods and Optimization of Their Electrochromic Properties, 2021 - 2023
  4. AYARCI KURUOĞLU N., ÖZDEMİR O., BOZKURT K., Project Supported by Higher Education Institutions, %30 In katkılı In<sub>x</sub>Ga<sub>1-x</sub>N/GaN çoklu kuantum kuyuların optoelektronik özelliklerinin incelenmesi, 2018 - 2019
  5. BOZKURT K., AYARCI KURUOĞLU N., Project Supported by Higher Education Institutions, Metal-organik kimyasal buharlaştırma tekniği ile büyütülmüş uzun dalga boylu lazer yapıların elektriksel özelliklerinin incelenmesi, 2015 - 2018

## Awards

1. Ayarçı Kuruoğlu N., 2016 Engin ABAT Best Theoretical Poster Paper Award, Türk Fizik Derneği, September 2017

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

1. **Indium and hafnium chloride modified titanium oxide thin films**  
AYARCI KURUOĞLU N., CHOI F. P., ÖZDEMİR O.  
Optik, vol.283, 2023 (SCI-Expanded)
2. **Relation between thermal quenching of photoluminescence and negative capacitance on InGaN/GaN multiple quantum wells in p-i-n structure**  
Özdemir O., Baş H., Ayarçı Kuruoğlu N., Bozkurt K., Aydın M., Sarcan F., Erol A., Alshehri B., Dogheche K., Dogheche E.  
Journal of Luminescence, vol.257, 2023 (SCI-Expanded)
3. **Determination of band tail widths in MOCVD grown InGaN single layer within GaN based p-i-n LED structure through photo-induced measurements**  
Özdemir O., Bozkurt K., Ayarçı Kuruoğlu N., Baş H., Sarcan F., Erol A., Alshehri B., Dogheche K., Dogheche E.  
JOURNAL OF LUMINESCENCE, vol.255, pp.119543, 2023 (SCI-Expanded)
4. **Investigation of luminescence centers inside InGaN/GaN multiple quantum well over a wide range of temperature and injection currents**  
Ayarçı Kuruoğlu N., Özdemir O., Bozkurt K., Baş H., Alshehri B., Dogheche K., Dogheche E.  
JOURNAL OF MATERIALS SCIENCE: MATERIALS IN ELECTRONICS, vol.00, no.00, 2022 (SCI-Expanded)
5. **Transport and storage dynamics of 30% In-rich InGaN/GaN MQW LED p-i-n structure**  
Özdemir O., Bozkurt K., Kuruoğlu N., Baş H., Alshehri B., Dogheche K., Gaimard Q., Ramdane A., Dogheche E.  
JOURNAL OF PHYSICS D-APPLIED PHYSICS, vol.52, 2019 (SCI-Expanded)
6. **Impact of trap states on inductive phenomena in 30% InGaN/GaN MOW LED devices**  
BOZKURT K., ÖZDEMİR O., KURUOĞLU N., ALSHEHRI B., DOGHECHE K., Gaimard Q., Ramdane A., DOGHECHE E.  
JOURNAL OF PHYSICS D-APPLIED PHYSICS, vol.52, no.10, 2019 (SCI-Expanded)
7. **Dc and ac electrical response of MOCVD grown GaN in p-i-n structure, assessed through I-V and admittance measurement**  
Kuruoğlu N., ÖZDEMİR O., BOZKURT K., Sundaram S., Salvestrini J., Ougazzaden A., Gaimard Q., BELAHSENE S., Merghem K., RAMDANE A.  
JOURNAL OF PHYSICS D-APPLIED PHYSICS, vol.50, no.50, 2017 (SCI-Expanded)
8. **Betavoltaic study of a GaN p-i-n structure grown by metal-organic vapour phase epitaxy with a Ni-63 source**

Kuruoglu N., ÖZDEMİR O., BOZKURT K.

THIN SOLID FILMS, vol.636, pp.746-750, 2017 (SCI-Expanded)

9. **Simultaneous Determination of Electron and Hole Mobilities in InP/InGaAsP/InAs/InP Laser Heterostructure by Admittance Spectroscopy**

Kuruoglu N., ÖZDEMİR O., BOZKURT K., BELAHSENE S., MARTINEZ A., RAMDANE A.

IEEE TRANSACTIONS ON ELECTRON DEVICES, vol.64, no.7, pp.2881-2885, 2017 (SCI-Expanded)

10. **Discrimination of Carrier Conduction Mechanisms of InP/InGaAsP/InAs/InP Laser Structure Through J-V-T Measurements**

Ayarcı N., ÖZDEMİR O., BOZKURT K., RAMDANE A., BELAHSENE S., MARTINEZ A.

IEEE TRANSACTIONS ON ELECTRON DEVICES, vol.63, no.5, pp.1866-1870, 2016 (SCI-Expanded)

### Articles Published in Other Journals

1. **MOCVD ile büyütülen GaN p-i-n yapısındaki sarı ışık merkezinin elektro-optik ölçümlerle incelenmesi**

Ayarcı Kuruoğlu N.

Iğdır Üniversitesi Fen Bilimleri Enstitüsü Dergisi, vol.12, no.1, pp.207-216, 2022 (Peer-Reviewed Journal)

2. **Investigation of Carrier Conduction Mechanism over InAs/InP Quantum Dashes and InAs/GaAs Quantum Dots Based p-i-n Laser Heterostructures**

Ayarcı Kuruoğlu N., Özdemir O., Bozkurt K.

Journal of Materials Science and Chemical Engineering, pp.1-9, 2017 (Peer-Reviewed Journal)

### Refereed Congress / Symposium Publications in Proceedings

1. **Luminescence Properties of In-Rich InGaN/GaN Multiple Quantum Wells Light Emitting Diodes**  
BOZKURT K., ÖZDEMİR O., AYARCI KURUOĞLU N., ALSHEHRI B., DOGHECHE K., GAIMARD Q., RAMDANE A., DOGHECHE E.

Turkish Physical Society 34.th International Physics Congress, Muğla, Turkey, 05 September 2018

2. **Simultaneous Determination of Electron and Hole Mobility in InGaN/GaN Multi Quantum Well LED Through AC Admittance Spectroscopy**

AYARCI KURUOĞLU N., ÖZDEMİR O., BOZKURT K., ALSHEHRI B., DOGHECHE K., GAIMARD Q., RAMDANE A., DOGHECHE E.

Turkish Physical Society 34.th International Physics Congress, Muğla, Turkey, 05 September 2018

3. **Light Emission Bands of InGaN/GaN MQW based LED in P-I-N Structures**

BAŞ H., ÖZDEMİR O., AYARCI KURUOĞLU N., BOZKURT K., ALSHEHRI B., DOGHECHE K., GAIMARD Q., RAMDANE A., DOGHECHE E.

Turkish Physical Society 34.th International Physics Congress, Muğla, Turkey, 05 September 2018

4. **Determination of Conduction Path in InGaN/GaN MQW LED by Current-Voltage and Admittance Measurements**

ÖZDEMİR O., AYARCI KURUOĞLU N., BOZKURT K., BAŞ H., ALSHEHRI B., DOGHECHE K., GAIMARD Q., RAMDANE A., DOGHECHE E.

Turkish Physical Society 34.th International Physics Congress, Muğla, Turkey, 05 September 2018

5. **Effect of Ni-63 Radiations on MBE Grown GaN in p-i-n Structure by Admittance Spectroscopy**

BOZKURT K., AYARCI KURUOĞLU N., ÖZDEMİR O., BELAHSENE S., MARTINEZ A., RAMDANE A.

XL BRAZILIAN MEETING ON NUCLEAR PHYSICS, Sao Paulo, Brazil, 03 September 2017, pp.1

6. **MBE tekniği ile büyütülmüş p-i-n GaN yapısındaki Ni-63 radyasyon etkisinin empedans spektroskopisiyle incelenmesi**

BOZKURT K., AYARCI KURUOĞLU N., ÖZDEMİR O.

XI. Ulusal Nükleer Bilimler ve Teknolojileri Kongresi, Aydın, Turkey, 12 October 2016

7. **Betavoltaic study on GaN p-i-n diode with Ni-63 source**

AYARCI KURUOĞLU N., ÖZDEMİR O., BOZKURT K., Ramdane A., Belahsene S., Martinez A.

Science and Applications of Thin Films, Congress & Exhibition - SATF 2016, İzmir, Turkey, 19 September 2016

8. **Negative capacitance in InP/InGaAsP/InP quantum dashes assessed through dc and ac electrical measurements.**

AYARCI KURUOĞLU N., ÖZDEMİR O., BOZKURT K.

Turkish Physical Society 32nd International Physics Congress, Muğla, Turkey, 06 September 2016

9. **Electroluminescence study of MBE (Molecular Beam Epitaxy) grown InP/InGaN/InAs/InP p-i-n laser heterostructure**

BOZKURT K., AYARCI KURUOĞLU N., ÖZDEMİR O.

Turkish Physical Society 32nd International Physics Congress, Muğla, Turkey, 06 September 2016

10. **Transport Mechanisms of InAs/InP Quantum Dashes and InAs/GaAs Quantum Dots Based p-i-n Laser Heterostructure**

AYARCI KURUOĞLU N., ÖZDEMİR O., BOZKURT K.

2 nd International Conference on Organic Electronic Material Technologies (OEMT2016), Çanakkale, Turkey, 16 May 2016

11. **Photo-voltaic Properties and Carrier Conduction Mechanisms of InP/InGaAsP/InP Quantum Well Through J-V-T Measurements**

AYARCI KURUOĞLU N., ÖZDEMİR O., BOZKURT K., Ramdane A., Belahsene S., Martinez A.

SOLAR-TR3, Ankara, Turkey, 27 April 2016

12. **Investigation of Potential to Produce Electricity from Commercial Solar Cell Through Beta Particles**

AYARCI KURUOĞLU N., BOZKURT K., ÖZDEMİR O., MENDA U. D., AKÇALI Ö., KUTLU K.

APMAS 2013, Antalya, Turkey, 15 April 2013

13. **Nuclear Battery: Betavoltaic Power Source and Applications**

AYARCI KURUOĞLU N., BOZKURT K., ÖZDEMİR O., KUTLU K.

SUNEC-2012, Sicily, Italy, 08 October 2012

14. **Hafif Atom Numaralı Hedef İçine Gönderilen Ağır İyonların Dağılımının İncelenmesi**

AYARCI N., SELVİ A. S.

Turkish Physical Society 28. International Physics Conference, 5 - 08 December 2011

## Scientific Refereeing

IEEE Transactions On Electron Devices, SCI Journal, April 2020

## Tasks In Event Organizations

Yüksel E., Bozkurt K., Ayarç Kuruoğlu N., Workshop on Nuclear Structure, Astrophysics and Reactions, Scientific Congress, İstanbul, Turkey, Mayıs 2014

## Mobility Activity

Other Exchange Programme, Research During Graduate Education, CNRS Laboratory for Photonics and Nanostructures, France, 2014 - 2014

Other, Research During Graduate Education, CNRS Laboratory for Photonics and Nanostructures, France, 2013 - 2013

## Metrics

Publication: 26

Citation (WoS): 27

Citation (Scopus): 43

H-Index (WoS): 3

H-Index (Scopus): 3

## Congress and Symposium Activities

Turkish Physical Society 34th International Physics Congress, Attendee, Muğla, Turkey, 2018

Turkish Physical Society 33th International Physics Congress, Attendee, Turkey, 2017

Turkish Physical Society 32nd International Physics Congress., Attendee, Muğla, Turkey, 2016

Science and Applications of Thin Films, Congress & Exhibition - SATF 2016, Attendee, İzmir, Turkey, 2016

2 nd International Conference on Organic Electronic Material Technologies (OEMT2016), Attendee, Çanakkale, Turkey, 2016

Nükleer ve Parçacık Fiziğinde Monte Carlo Uygulamaları Bahar Okulu (NUPAMC), Attendee, Amasya, Turkey, 2016

SOLAR-TR3, Attendee, Ankara, Turkey, 2015

APMAS 2013, Attendee, Antalya, Turkey, 2013

Nükleer ve Parçacık Fiziğinde Monte Carlo Uygulamaları ( NUPAMC ) Bahar Okulu, Attendee, Bitlis, Turkey, 2012

13. ULUSAL MEDİKAL FİZİK KONGRESİ, Attendee, İzmir, Turkey, 2011

## Research Areas

Physics, Condensed Matter 1: Structural, Mechanical and Thermal Properties, Surfaces, Interfaces, Thin Films and Nanosystems, Natural Sciences