

## Res. Asst. BEHÇET ÖZGÜR ALAYDİN

### Personal Information

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### Education Information

Undergraduate, Sivas Cumhuriyet Üniversitesi, Mühendislik Fakültesi, Elektrik-Elektronik Mühendisliği Bölümü, Turkey 2015 - Continues

Post Doctorate, Eidgenössische Technische Hochschule, ETHZ (The Federal Institute of Technology, Zürich), Department of Physics, Switzerland 2019 - 2021

Doctorate, Sivas Cumhuriyet Üniversitesi, Fen Fakültesi, Fizik Bölümü, Turkey 2014 - 2018

Postgraduate, Sivas Cumhuriyet Üniversitesi, Fen Fakültesi, Fizik Bölümü, Turkey 2011 - 2014

Undergraduate, Anadolu Üniversitesi, Fen Fakültesi, Fizik Bölümü, Turkey 2004 - 2010

### Dissertations

Doctorate, Düşey Kovuklu Yüzey Işımalı Lazer Yapılarının Büyütülmesi ve Karakterizasyonu, Sivas Cumhuriyet Üniversitesi, Fen Fakültesi, Fizik Bölümü, 2018

### Research Areas

Physics, Natural Sciences

### Academic Titles / Tasks

Research Assistant PhD, Sivas Cumhuriyet University, Fen Fakültesi, Fizik Bölümü, 2017 - Continues

Research Assistant, Sivas Cumhuriyet University, Fen Bilimleri Enstitüsü, Fen Bilimleri Enstitüsü, 2011 - 2017

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

- I. **Characterization of multilayer Al doping in ZnO**  
Şenadım Tüzemen E., Merhan Muğlu G., Alaydin B. Ö. , Altun D., Cetin S. K. , Gür E.  
JOURNAL OF THE AUSTRALIAN CERAMIC SOCIETY, vol.57, no.4, pp.1039-1047, 2021 (Journal Indexed in SCI)
- II. **Full optical SESAM characterization methods in the 1.9 to 3-µm wavelength regime**  
Heidrich J., Gaulke M., Alaydin B. Ö. , Golling M., Barh A., Keller U.  
Optics Express, vol.29, no.5, pp.6647-6656, 2021 (Journal Indexed in SCI)
- III. **Watt-level and sub-100-fs self-starting mode-locked 2.4-µm Cr:ZnS oscillator enabled by GaSb-SESAMs**  
Barh A., Heidrich J., Alaydin B. Ö. , Gaulke M., Golling M., Phillips C., Keller U.  
Optics Express, vol.29, no.4, pp.5934-5946, 2021 (Journal Indexed in SCI)
- IV. **Effect of high bandgap AlAs quantum barrier on electronic and optical properties of In<sub>0.70</sub>Ga<sub>0.03</sub>As/Al<sub>0.60</sub>In<sub>0.40</sub> As superlattice under applied electric field for laser and detector**

## **applications**

Alaydin B. Ö.

International Journal of Modern Physics B, vol.35, 2021 (Journal Indexed in SCI)

- V. **Formation of carbon nanowalls by pulsed filtered cathodic vacuum arc deposition**  
Tuzemen E., Kilic M., Zeyrek B. K., Kasapoğlu A. E., Gür E., Alaydin B. Ö., Esen M., Esen R.  
DIAMOND AND RELATED MATERIALS, vol.93, pp.200-207, 2019 (Journal Indexed in SCI)
- VI. **Comprehensive structural and optical characterization of AlAs/GaAs distributed Bragg reflector**  
Alaydin B. Ö., Tuzemen E., Altun D., Elagoz S.  
INTERNATIONAL JOURNAL OF MODERN PHYSICS B, vol.33, no.8, 2019 (Journal Indexed in SCI)
- VII. **Simulation of Highly Reflective GaN/AlxGa1-xN Distributed Bragg Reflector Structure for UV-Blue LEDs**  
Alaydin B. Ö., Altuntas İ., Tuzemen E., Elagoz S.  
JOURNAL OF NANOELECTRONICS AND OPTOELECTRONICS, vol.13, no.3, pp.387-393, 2018 (Journal Indexed in SCI)
- VIII. **Interband transitions dependent on indium concentration in Ga1-xInxAs/GaAs asymmetric triple quantum wells**  
Alaydin B. Ö., Ozturk E., Elagoz S.  
INTERNATIONAL JOURNAL OF MODERN PHYSICS B, vol.32, no.5, 2018 (Journal Indexed in SCI)

## **Articles Published in Other Journals**

- I. **Optical Properties of GaAs/AlxGa1-xAs Superlattice Under E-Field for Quantum Cascade Laser Application**  
Alaydin B. Ö.  
Gazi University Journal of Science, vol.1, no.1, pp.1, 2021 (National Refreed University Journal)
- II. **Optical and Structural Properties of MOCVD Grown InxGa1-xAs Epilayers**  
ALAYDIN B. Ö., ŞENADIM TÜZEMEN E., DEMİR İ., ELAGÖZ S.  
Cumhuriyet Science Journal, vol.38, no.4, pp.681-689, 2017 (Refereed Journals of Other Institutions)

## **Refereed Congress / Symposium Publications in Proceedings**

- I. **Growth and characterization of grown optical pumped VCSEL**  
ALAYDIN B. Ö., ALTUN D., ŞENADIM TÜZEMEN E., ELAGÖZ S.  
International Eurasian Conference on Science, Engineering and Technology (EurasianSciEnTech 2018), 22 - 23 November 2018
- II. **Effect of LT-GaN Thickness on the Structural Properties of GaN Grown On PSS by Mocvd**  
ALTUN D., ALAYDİN B. Ö., Bulut B., Erkuş M., ELAGÖZ S.  
2nd International Mediterranean Science And Engineering Congress, 25 - 27 October 2017
- III. **Simulation Of GaAs Based DBR Structures For VCSEL Application**  
ALAYDİN B. Ö., ŞENADIM TÜZEMEN E., ELAGÖZ S.  
International Conference On Condensed Matter And Material Sciences, 11 - 15 October 2017
- IV. **Modelling Highly Reflective AlAs1-xPx/GaAs Dbr Structure**  
ALAYDİN B. Ö., ŞENADIM TÜZEMEN E., ELAGÖZ S.  
Internatonal Conference On Condensed Matter And Material Sciences, 11 - 15 October 2017
- V. **Simulation of Highly Reflective GaN/AlxGa1-xN DBR Structure for UV-Blue LEDs**  
ALAYDİN B. Ö., ALTUNTAŞ İ., ŞENADIM TÜZEMEN E., ELAGÖZ S.  
4th INTERNATIONAL CONFERENCE ON MATERIALS SCIENCE AND NANOTECHNOLOGY FOR NEXT GENERATION (MSNG2017), 28 - 01 June 2017
- VI. **Investigation of ZnO based Distributed Bragg Reflectors (DBRs) by using Transfer Matrix Method**

ŞENADIM TÜZEMEN E., ALAYDİN B. Ö. , ELAGÖZ S.

4th INTERNATIONAL CONFERENCE ON MATERIALS SCIENCE AND NANOTECHNOLOGY FOR NEXT GENERATION,  
28 - 30 June 2017

**VII. Modelling of Highly Reflective GaAs/Al<sub>x</sub>Ga<sub>1-x</sub>As DBR Structure for 980 nm VCSELs**

ALAYDİN B. Ö. , ŞENADIM TÜZEMEN E., ELAGÖZ S.

4th INTERNATIONAL CONFERENCE ON MATERIALS SCIENCE AND NANOTECHNOLOGY FOR NEXT GENERATION  
(MSNG2017), 28 - 30 June 2017

**VIII. High Quality InGaAs InAlAs Superlattices Growth by MOCVD**

DEMİR İ., Alaydın B. Ö. , ALTUNTAŞ İ., ELAGÖZ S.

3th International Nanoscience and Nanotechnology for Next Generation, 20 - 23 October 2016

**IX. High Quality InGaAs/InAlAs Superlattices Growth by MOCVD**

DEMİR İ., ALAYDİN B. Ö. , ALTUNTAŞ İ., ELAGÖZ S.

3th NANOSCIENCE NANOTECHNOLOGY FOR NEXT GENERATION, 1 - 03 October 2016

**X. Growth And Characterization Of High Aluminium Alloy Concentration (x=0.92-0.94) Al<sub>x</sub>Ga<sub>1-x</sub>As for Optoelectronic Application**

ALAYDİN B. Ö. , DEMİR İ., ELAGÖZ S.

Tfd 32, International Physics Congress, 6 - 09 September 2016

**XI. V/III Ratio Effect on Electrical and Optical Properties of Nearly Lattice Matched In<sub>x</sub>Ga<sub>1-x</sub>As Epilayers on InP**

DEMİR İ., ALAYDİN B. Ö. , ELAGÖZ S.

Turkish Physical Society 32nd International Physics Congress, Muğla, Turkey, 6 - 09 September 2016

**XII. Growth And Characterization of High Aluminium Alloy Concentration x 0.9 Al<sub>x</sub>Ga<sub>1-x</sub>As for Optoelectronic Application**

ALAYDİN B. Ö. , DEMİR İ., ELAGÖZ S.

Turkish Physical Society 32nd International Physics Congress, Muğla, Turkey, 6 - 09 September 2016

**XIII. V/III Ratio Effect on Electrical and Optical Properties of Nearly Lattice Matched In<sub>x</sub>Ga<sub>1-x</sub>As Epilayers on InP**

DEMİR İ., ALAYDİN B. Ö. , ELAGÖZ S.

Turkish Physical Society 32nd International Physics Congress, 6 - 09 September 2016

**XIV. Optical and Structural Properties of Lattice Matched and Slightly Lattice Mismatched MOCVD Grown In<sub>x</sub>Ga<sub>1-x</sub> Epilayers**

ALAYDİN B. Ö. , ŞENADIM TÜZEMEN E., DEMİR İ., ELAGÖZ S.

16th International Balkan Workshop on Applied Physics and Materials Science (IBWAP 2016), Constanta, Romania, 7 - 09 July 2016

**XV. Optical And Structural Properties Of Lattice Matched And Slightly Lattice Mismatched MOCVD Grown In<sub>x</sub>Ga<sub>1-x</sub>As Epilayers**

ALAYDİN B. Ö. , ŞENADIM TÜZEMEN E., DEMİR İ., ELAGÖZ S.

IBWAP 2016, 7 - 09 July 2016

**XVI. Research For Optimizing Growth Conditions Of Gallium Nitride Epilayers for Blue Led Structures Grown by MOCVD**

ALAYDİN B. Ö.

9th International Physics Conference Of The Balkan Physical Union, 25 - 28 August 2015

**XVII. MOCVD ile Büyütülen Ge/gaas Non-polar-polar Yapısının Yüksek Çözünürlüklü X-ışını Kırınımıyla Ve Yapısal Karakterizasyonu**

ALAYDİN B. Ö. , ELAGÖZ S.

Adım Fizik Günleri, 17 - 18 April 2014

## Supported Projects

Keller U., Alaydın B. Ö. , Horizon Europe Project, One-mix Mid-infrared Optical Dual-comb Generation And Spectroscopy

With One Unstabilized Semiconductor Laser, 2019 - 2024

ŞENADIM TÜZEMEN E., ALAYDİN B. Ö. , Project Supported by Higher Education Institutions, AlAs<sub>1-x</sub>P<sub>x</sub>/ GaAs

DAĞITILMIŞ BRAGG YANSITICILARININ KURAMSAL MODELLEMESİ, 2017 - 2017

## Citations

Total Citations (WOS):8

h-index (WOS):2