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International Researcher IDs

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Publons / Web Of Science ResearcherID: AAD-1416-2020

ScopusID: 7004336995

Yoksis Researcher ID: 108291

Education Information

Doctorate, University of Essex, Electronic System Engineering, Electronic System Engineering, United Kingdom 2001 - 2002

Doctorate, Istanbul University, Institute of Graduate Studies In Sciences, Fizik/Katıhal Fiziği, Turkey 1997 - 2002

Postgraduate, Istanbul University, Fen/Fen Bilimleri, Fizik, Turkey 1994 - 1997

Undergraduate, Istanbul University, Fen/Fen Bilimleri, Fizik, Turkey 1990 - 1994

Foreign Languages

English, B2 Upper Intermediate

Certificates, Courses and Trainings

Quality Management, Kalite Yönetim Sertifikası, Türk Standartları Enstitüsü, 2011

Education Management and Planning, Pedagojik Formasyon, İstanbul Üniversitesi/Hasan Ali Yücel Eğitim Fakültesi Dekanlığı, 2003

IT, Internet Web Tasarım, T.C. Milli Eğitim Bakanlığı/Brain Bilişim Akademisi, 2000

IT, Web Enabling:Technologies & Authorin Tools, Abdus Salam International Centre for theoretical Physics, 1999

Dissertations

Doctorate, INVESTIGATION OF BRAGG REFLECTION EFFECTS IN LOW DIMENSIONAL SURFACE EMITTING STRUCTURES, Istanbul University, Institute of Graduate Studies In Sciences, Fizik/Katıhal Fiziği Anabilim Dalı, 2002

Postgraduate, Düşük Boyutlu Yarıiletken Yapılarda Optik Olaylar, Istanbul University, Fen Bilimleri Estitüsü, Fzik/Katıhal Fiziği Anabilim Dalı, 1997

Research Areas

Optics and Photonics, Optical Materials and Devices, Optoelectronic Materials and Devices, Semiconducting Materials and Devices, Physics, Interdisciplinary Physics and Related Science and Technology Areas, Materials Science, Condensed Matter 1: Structural, Mechanical and Thermal Properties, Intensive Article 2: Electronic Structure, Electric, Magnetic and Optical Properties, Optical Properties, Spectroscopy of Matter, Natural Sciences, Engineering and Technology

Academic Titles / Tasks

Professor, Istanbul University, Faculty of Science, Department of Physics, 2013 - Continues
Other, University of Essex, School Of Computer Science And Electronic System Engineering, Electronic System Engineering, 2015 - 2015
Other, University of Essex, School Of Computer Science And Electronic System Engineering, Electronic System Engineering, 2014 - 2014
Other, University of Essex, School Of Computer Science And Electronic System Engineering, Electronic System Engineering, 2013 - 2013
Associate Professor, Istanbul University, Faculty of Science, Department of Physics, 2007 - 2013
Assistant Professor, Istanbul University, Faculty of Science, Department of Physics, 2004 - 2007
Research Assistant, Istanbul University, Faculty of Science, Department of Physics, 1998 - 2004

Academic and Administrative Experience

İstanbul Üniversitesi, 2018 - Continues
İstanbul Üniversitesi, Katıhal Fiziği, 2014 - Continues
İstanbul Üniversitesi, 2017 - 2018
İstanbul Üniversitesi, Fizik, 2013 - 2014
İstanbul Üniversitesi, Faculty of Science, 2012 - 2014
İstanbul Üniversitesi, Fizik, Fizik, 2009 - 2011

Courses

Solid State Physics, Undergraduate, 2022 - 2023
Semiconductor Devices, Undergraduate, 2021 - 2022
EXPERIMENTAL TECHNIQUES IN SEMICONDUCTOR RESEARCH, Postgraduate, 2021 - 2022
Linear Algebra, Undergraduate, 2021 - 2022
Nanotechnology, Undergraduate, 2019 - 2020
SEMICONDUCTOR DEVICES, Doctorate, 2018 - 2019, 2017 - 2018
ELECTRONIC AND OPTOELECTRONIC PROPERTIES OF SEMICONDUCTOR STRUCTURES, Doctorate, 2018 - 2019
YARIİLETKENLERDE KUANTUM OLAYLARI, Doctorate, 2018 - 2019
ELECTRONIC AND OPTOELECTRONIC PROPERTIES OF SEMICONDUCTOR STRUCTURES, Doctorate, 2017 - 2018
Malzeme Bilimi, Undergraduate, 2016 - 2017, 2015 - 2016
Optoelektronik, Undergraduate, 2017 - 2018
Optoelektronik, Undergraduate, 2017 - 2018
Yarıiletken Aygıtlar, Doctorate, 2016 - 2017
YARI İLETKENLERDE KUANTUM OLAYLARI, Doctorate, 2016 - 2017
Yarıiletkenlerde Kuantum Olayları, Doctorate, 2016 - 2017
Katıhal Fiziği, Undergraduate, 2016 - 2017
Yarıiletkenler Fiziği, Undergraduate, 2012 - 2013, 2011 - 2012, 2009 - 2010

Yarıiletken Aygıtlar, Doctorate, 2012 - 2013, 2010 - 2011
Yarıiletken Yapıların Elektronik ve Optoelektronik Özellikleri, Doctorate, 2012 - 2013, 2011 - 2012, 2009 - 2010
Modern Optik Uygulamaları, Undergraduate, 2012 - 2013, 2011 - 2012, 2009 - 2010
Katıların Optik Özellikleri, Postgraduate, 2010 - 2011
Kathal Fiziği I, Undergraduate, 2008 - 2009, 2007 - 2008
Kathal Fiziği II, Undergraduate, 2007 - 2008
Bilgi İşlem II, Undergraduate, 2006 - 2007
Bilgi İşlem I, Undergraduate, 2006 - 2007
Fizik II, Undergraduate, 2005 - 2006
Fizik II, Undergraduate, 2005 - 2006

Advising Theses

EROL A., Süperiletken Bobin Üretiminde Yeni Bir Yöntem ve Manyetik Enerji Depolama Sistemi Optimizasyonu, Doctorate, S.Tunç(Student), Continues
Erol A., Development and Characterization of Lead Zirconate Titanate (PZT) Based Detectors, Doctorate, A.Ünverdi(Student), Continues
Erol A., Piroelektrik Tabanlı Dedektörlerin Geliştirilmesi ve Karakterizasyonu, Doctorate, M.Büyükharman(Student), Continues
Erol A., InGaAs Gunn diyodu tabanlı ışık yayan aygıt üretimi ve karakterizasyonu, Postgraduate, G.KALYON(Student), 2022
Erol A., InGaAs epitaksiyel tabakaların optik ve elektriksel karakterizasyonu, Postgraduate, S.MOHAMMAD(Student), 2022
Erol A., Güver T., FABRICATION AND CHARACTERIZATION OF DEVICES BASED ON III-V GROUP SEMICONDUCTORS, Postgraduate, B.Kay(Student), 2021
Erol A., Characterization of quasi and 2D semiconductors, Doctorate, A.AB.MA.RAJHI(Student), 2021
Erol A., PREPARATION AND CHARACTERIZATION OF POLYMER-BASED ELECTROCHROMIC FILMS, Postgraduate, S.JUSUFOVIC(Student), 2020
Erol A., Bessel Beam Generation and Characterisation by Surface Acoustic Waves in Microfluidic Systems, Postgraduate, Y.Yalçın(Student), 2019
Erol A., RESONANT CAVITY ENHANCED GaInNAs-BASED IR PHOTODETECTORS WITH GAIN, Doctorate, F.Sarcan(Student), 2018
Erol A., INVESTIGATION OF STRUCTURAL, OPTICAL AND ELECTRONIC PROPERTIES OF BISMUTH CONTAINING III-V GROUP HIGHLY MISMATCHED SEMICONDUCTOR ALLOYS, Postgraduate, T.ERUŞAR(Student), 2017
Erol A., ELECTRONIC TRANSPORT in III-N-V and III-Bi-V SEMICONDUCTOR ALLOYS, Postgraduate, E.Çokduygulular(Student), 2017
Erol A., INVESTIGATION of ELECTRICAL and OPTICAL PROPERTIES of SOLAR CELLS BASED on III-V GROUP SEMICONDUCTORS, Postgraduate, A.MUHAMMETGULYYEV(Student), 2017
Erol A., INVESTIGATION of LIGHT EMISSION BASED on GUNN EFFECT in III-V GROUP ALLOY SEMICONDUCTOR, Postgraduate, Ç.Çetinkaya(Student), 2016
Erol A., INVESTIGATION of OPTICAL and ELECTRICAL PROPERTIES of MODULATION DOPED GaInNAs/GaAs QUANTUM WELL STRUCTURES, Postgraduate, F.Sarcan(Student), 2012
Erol A., ZnO Nanoyapıların Sentezlenmesi ve Sensör Özelliklerinin İncelenmesi, Postgraduate, N.Aşar(Student), 2011
Erol A., SYNTHESIS AND CHARACTERISATION OF ZnO QUANTUM DOTS BY SOLGEL METHOD, Postgraduate, B.Comba(Student), 2009

Jury Memberships

Appointment to Academic Staff - Associate Professorship, Appointment to Academic Staff - Associate Professorship,

İstanbul Üniversitesi, October, 2023

Appointment to Academic Staff-Assistant Professorship, Appointment to Academic Staff-Assistant Professorship, İstanbul Üniversitesi, September, 2023

Appointment to Academic Staff-Assistant Professorship, Appointment to Academic Staff-Assistant Professorship, İstanbul Üniversitesi, September, 2023

Appointment to Academic Staff-Professorship, Appointment to Academic Staff-Professorship, Piri Reis Üniversitesi, August, 2023

Appointment to Academic Staff-Professorship, Appointment to Academic Staff-Professorship, Bahçeşehir Üniversitesi, May, 2023

Associate Professor Exam, Associate Professor Exam, Istanbul University, March, 2023

Appointment to Academic Staff - Associate Professorship, Appointment to Academic Staff - Associate Professorship, İstanbul Üniversitesi, February, 2023

Appointment to Academic Staff-Professorship, Appointment to Academic Staff-Professorship, Akdeniz Üniversitesi, October, 2022

Appointment to Academic Staff - Associate Professorship, Appointment to Academic Staff - Associate Professorship, İstanbul Üniversitesi, July, 2022

Appointment to Academic Staff - Associate Professorship, Appointment to Academic Staff - Associate Professorship, İstanbul Üniversitesi, April, 2022

Appointment to Academic Staff-Professorship, Appointment to Academic Staff-Professorship, İstanbul Üniversitesi, November, 2021

Appointment to Academic Staff-Professorship, Appointment to Academic Staff-Professorship, Dokuz Eylül Üniversitesi, November, 2021

Appointment to Academic Staff-Professorship, Appointment to Academic Staff-Professorship, İstanbul Üniversitesi, November, 2021

Appointment to Academic Staff-Assistant Professorship, Profesörlük Ataması, İzmir Katip Çelebi Üniversitesi, June, 2017

Associate Professor Exam, Doçentlik Sınav Jürisi, ODTÜ, April, 2017

Appointment to Academic Staff-Assistant Professorship, Profesör Kadrosuna Atama, İTÜ, April, 2015

Doctoral Examination, Yeterlik Sınavı, Anadolu Üniversitesi, May, 2014

Appointment to Academic Staff-Assistant Professorship, Yardımcı Doçent Kadrosuna Atanma Jüri Üyeliği, İstanbul Üniversitesi, March, 2014

Appointment to Academic Staff-Assistant Professorship, Profesör Kadrosuna Atanma Jüri Üyeliği, İstanbul Üniversitesi, January, 2014

Appointment to Academic Staff-Assistant Professorship, Yardımcı Doçent Kadrosuna Atanma Jüri Üyeliği, İstanbul Üniversitesi, November, 2013

Doctoral Examination, Doktora Yeterlik Sınavı, İSTANBUL ÜNİVERSİTESİ FEN BİLİMLERİ ENSTİTÜSÜ, January, 2013

Doctoral Examination, Doktora Yeterlilik Sınavı, İSTANBUL ÜNİVERSİTESİ FEN BİLİMLERİ ENSTİTÜSÜ, May, 2011

Doctoral Examination, Doktora Yeterlik Sınavı, İSTANBUL ÜNİVERSİTESİ FEN BİLİMLERİ ENSTİTÜSÜ, February, 2011

Doctorate, Doktora Tez Savunma, Anadolu Üniversitesi, June, 2010

Doctoral Examination, Doktora Yeterlik Sınavı, İSTANBUL ÜNİVERSİTESİ FEN BİLİMLERİ ENSTİTÜSÜ, June, 2010

Doctoral Examination, Doktora Yeterlik Sınavı, İSTANBUL ÜNİVERSİTESİ FEN BİLİMLERİ ENSTİTÜSÜ, January, 2009

Doctoral Examination, Doktora Yeterlik Sınavı, İSTANBUL ÜNİVERSİTESİ FEN BİLİMLERİ ENSTİTÜSÜ, January, 2008

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **The impact of a-tomatine on shear bonding strength in different dentin types and on cariogenic microorganisms: an in vitro and in silico study**
Ucuncu M. K., Ucuncu M. Y., TOPCUOĞLU E. N., KITİN E., YAZICIOĞLU O., Ortaakarsu A. B., AYDIN M., EROL A.
BMC Oral Health, vol.24, no.1, 2024 (SCI-Expanded)
- II. **Characterization of composition dependence of properties of a MgNiO-based MSM structure**
Dogan U., SARCAN F., HUT E., Achinuq B., Althumali A., Aldawood I., Kerrigan A., Lazarov V. K., EROL A.

PHYSICA SCRIPTA, no.9, 2024 (SCI-Expanded)

- III. **A novel InGaN-based bidirectional wavelength converter and optical amplifier based on hot electron-induced blue light-emitting device**
MUTLU S., EROL A., TIRAS E.
JOURNAL OF LUMINESCENCE, vol.272, 2024 (SCI-Expanded)
- IV. **Electric field dependence of the electron drift velocity in n-type In_xGa_{1-x}As_{1-y}Bi_y epilayer**
AYDIN M., BORK J., ZIDE J., EROL A., DÖNMEZ Ö.
Physica B: Condensed Matter, vol.685, 2024 (SCI-Expanded)
- V. **Light Logic Gates with GaAs-Based Structures**
SONMEZ F., ARDALI S., ARPAPAY B., MUTLU S., ERGURHAN A. A., SENEL O., SERINCAN U., EROL A., TIRAS E.
PHYSICA STATUS SOLIDI-RAPID RESEARCH LETTERS, 2024 (SCI-Expanded)
- VI. **Characterization of induced quasi-two-dimensional transport in n-type In_xGa_{1-x}As_{1-y}Bi_y bulk layer**
AYDIN M., YILMAZ S. N., BORK J., ZIDE J., EROL A., DÖNMEZ Ö.
Applied Physics A: Materials Science and Processing, vol.130, no.7, 2024 (SCI-Expanded)
- VII. **Effect of water-based electrolyte on surface, mechanical and tribological properties of ZrO₂ nanotube arrays produced on zirconium**
DURDU S., AKTAS S., SARCAN F., AKAGUNDUZ E., GULTEKIN B., EROL A., USTA M.
Journal of the Australian Ceramic Society, vol.60, no.3, pp.833-848, 2024 (SCI-Expanded)
- VIII. **Effect of doping on transport properties of InSb epilayers grown by MOCVD and MBE**
GÜNEŞ M., AYDIN M., DÖNMEZ Ö., GÜMÜŞ C., EROL A., MARROQUIN J., FELIX J., YOSHIKAWA A., GEKA H., KUZE N., ET AL.
Materials Science and Engineering: B, vol.305, 2024 (SCI-Expanded)
- IX. **Reduced trap-density and boosted performance of CH₃NH₃PbI₃ solar cells by 1-Pentanethiol enhanced anti-solvent washing route**
GOKDEMİR CHOI F. P., KURUOĞLU F., MOEINI ALISHAH H., BOZAR S., KAHVECI C., CANTÜRK RODOP M., EROL A., GÜNEŞ S.
Nanotechnology, vol.35, no.21, 2024 (SCI-Expanded)
- X. **A Dual-Channel MoS₂-Based Selective Gas Sensor for Volatile Organic Compounds**
KUŞ E., ALTINDEMİR G., BOSTAN Y. K., TAŞALTIN C., EROL A., WANG Y., SARCAN F.
Nanomaterials, vol.14, no.7, 2024 (SCI-Expanded)
- XI. **Enhancement of light emission characteristic of a GaAs-based Gunn light emitting diode with a quasi-cavity**
MUTLU S., KALYON G., SARCAN F., ERBAŞ Ö. G., EROL A.
MATERIALS SCIENCE IN SEMICONDUCTOR PROCESSING, vol.169, 2024 (SCI-Expanded)
- XII. **Ultraviolet-Ozone Treatment: An Effective Method for Fine-Tuning Optical and Electrical Properties of Suspended and Substrate-Supported MoS₂**
SARCAN F., ARMSTRONG A. J., BOSTAN Y. K., KUS E., MCKENNA K. P., EROL A., WANG Y.
NANOMATERIALS, vol.13, no.23, 2023 (SCI-Expanded)
- XIII. **Determination of electronic band structure of quaternary ferromagnetic Ga_{0.97}-yMn_{0.03}CryAs epitaxial layers**
DÖNMEZ Ö., GÜNEŞ M., HENİNİ M., EROL A.
PHYSICA B-CONDENSED MATTER, vol.665, 2023 (SCI-Expanded)
- XIV. **InGaAs-based Gunn light emitting diode**
KALYON G., MUTLU S., KURUOĞLU F., PERTİKEL İ., DEMİR İ., EROL A.
MATERIALS SCIENCE IN SEMICONDUCTOR PROCESSING, vol.159, 2023 (SCI-Expanded)
- XV. **Relation between thermal quenching of photoluminescence and negative capacitance on InGaN/GaN multiple quantum wells in p-i-n structure**
ÖZDEMİR O., BAŞ H., AYARCI KURUOĞLU N., BOZKURT K., AYDIN M., SARCAN F., EROL A., ALSHEHRI B., DOGHECHE K., DOGHECHE E.
JOURNAL OF LUMINESCENCE, vol.257, 2023 (SCI-Expanded)
- XVI. **Analysis of mixed optical transitions in dilute magnetic AlAs/GaAs/ GaMnAs quantum wells grown on high substrate index by molecular beam epitaxy**

Kerimova S., Dönmez Ö., Gunes M., Kuruoğlu F., Aydın M., Gümüş C., Erol A.
MATERIALS SCIENCE AND ENGINEERING B-ADVANCED FUNCTIONAL SOLID-STATE MATERIALS, vol.290, 2023
(SCI-Expanded)

- XVII. **Understanding the impact of heavy ions and tailoring the optical properties of large-area monolayer WS₂ using focused ion beam**
Sarcan F., Fairbairn N., Zotev P., Severs-Millard T., Gillard D. J., Wang X., Conran B., Heuken M., Erol A., Tartakovskii A., et al.
npj 2D Materials and Applications, vol.7, no.23, pp.1-7, 2023 (SCI-Expanded)
- XVIII. **Determination of band tail widths in MOCVD grown InGaN single layer within GaN based p-i-n LED structure through photo-induced measurements**
ÖZDEMİR O., BOZKURT K., AYARCI KURUOĞLU N., Baş H., SARCAN F., EROL A., Alshehri B., Dogheche K., Dogheche E.
JOURNAL OF LUMINESCENCE, vol.255, 2023 (SCI-Expanded)
- XIX. **A novel NiO-based p-i-n ultraviolet photodiode**
Sarcan F., Doğan U., Althumali A., Vasili H. B., Lari L., Kerrigan A., Kuruoğlu F., Lazarov V. K., Erol A.
JOURNAL OF ALLOYS AND COMPOUNDS, vol.934, 2023 (SCI-Expanded)
- XX. **Comprehensively analysis of hot electron transport in as-grown and thermally annealed n-type modulation-doped Al_{0.15}Ga_{0.85}As/GaAs_{0.96}Bi_{0.04} quantum well structure**
Dönmez Ö., Aydın M., Mutlu S., Puustinen J., Hilska J., Guina M., Erol A.
Materials Science in Semiconductor Processing, vol.154, 2023 (SCI-Expanded)
- XXI. **High-Field Electron-Drift Velocity in n-Type Modulation-Doped GaAs_{0.96}Bi_{0.04} Quantum Well Structure**
Aydın M., Mutlu S., Erol A., Puustinen J., Hilska J., Guina M., Dönmez Ö.
PHYSICA STATUS SOLIDI-RAPID RESEARCH LETTERS, vol.16, no.11, 2022 (SCI-Expanded)
- XXII. **Boron- and Boric Acid-Treated Titanium Implant Surfaces in Sheep Tibia: A Histologic, Histomorphometric and Mechanical Study**
Aysesek N., ARISAN V., Balcioğlu N. B., EROL A., KURUOĞLU F., SOLUK TEKKEŞİN M., ERSANLI S.
BIOENGINEERING-BASEL, vol.9, no.11, 2022 (SCI-Expanded)
- XXIII. **Surface acoustic wave quasi-Bessel beams generated by symmetrically tilted interdigital transducers**
Uluğ B., Kuruoglu F., Yalcin Y., Erol A., Sarcan F., Şahin A., Çiçek A.
JOURNAL OF PHYSICS D-APPLIED PHYSICS, vol.55, no.22, 2022 (SCI-Expanded)
- XXIV. **PREVENTIVE EFFECTS OF MATRIX-METALLOPROTEINASE INHIBITORS ON DENTAL EROSION**
KORUYUCU M., İLİSULU S. C., SARCAN F., KURUOĞLU F., EROL A., SEYMEN F.
FLUORIDE - QUARTERLY REPORTS, vol.55, no.2, pp.11, 2022 (SCI-Expanded)
- XXV. **Effects of annealing temperature on a ZnO thin film-based ultraviolet photodetector**
Dogan U., SARCAN F., Koc K. K., KURUOĞLU F., EROL A.
PHYSICA SCRIPTA, vol.97, no.1, 2022 (SCI-Expanded)
- XXVI. **A novel hot carrier-induced blue light-emitting device**
Mutlu S., Erol A., Arslan E., Ozbay E., Lişesivdin S. B., Tiras E.
JOURNAL OF ALLOYS AND COMPOUNDS, vol.881, 2021 (SCI-Expanded)
- XXVII. **A quantitative analysis of electronic transport in n- and p-type modulation-doped GaAsBi/AlGaAs quantum well structures**
Dönmez Ö., Erol A., Çetinkaya Ç., Cokduygulular E., Aydın M., Yıldırım S., Puustinen J., Hilska J., Guina M.
SEMICONDUCTOR SCIENCE AND TECHNOLOGY, vol.36, no.11, 2021 (SCI-Expanded)
- XXVIII. **Integer quantum Hall effect measurement analysis in Ga_{0.68}In_{0.32}N_{0.017}As/GaAs quantum wells with various annealing time**
Ardali S., TIRAŞ E., Erol A.
PHYSICA B-CONDENSED MATTER, vol.621, 2021 (SCI-Expanded)
- XXIX. **Temperature-dependent sandwich and in-plane optical characterization of ternary chalcogenide TlSbS₂**
Sarcan F., Aydın M., Kuruoğlu F., Dönmez Ö., Yıldırım S., Erol A.

Materials Science and Engineering B: Solid-State Materials for Advanced Technology, vol.272, 2021 (SCI-Expanded)

- XXX. **Improvement of fill factor by the utilization of Zn-doped PEDOT:PSS hole-transport layers for p-i-n planar type of perovskite solar cells**
Alishah H. M., Choi F. P., Kuruoglu F., Erol A., Güneş S.
ELECTROCHIMICA ACTA, vol.388, 2021 (SCI-Expanded)
- XXXI. **Photoluminescence characteristic of as-grown and thermally annealed n-and p-type modulation-doped Ga(0.68)In(0.32)N(x)AS(1-x)/GaAs quantum well structures**
Donmez O., Sarcan F., Erol A., Ungan F., Sari H.
THIN SOLID FILMS, vol.732, 2021 (SCI-Expanded)
- XXXII. **Determination of the acoustic phonon-hot carriers interaction in n- and p-type modulation-doped GaInNAs/GaAs quantum wells**
Dönmez Ö., Sarcan F., Erol A.
Physica B: Condensed Matter, vol.612, 2021 (SCI-Expanded)
- XXXIII. **The effect of strain and spatial Bi distribution on the band alignment of GaAsBi single quantum well structure**
Gunes M., Dönmez Ö., Gumus C., Erol A., Alghamdi H., Alhassan S., Alhassni A., Alotaibi S., Schmidbauer M., Galeti H. V. A., et al.
PHYSICA B-CONDENSED MATTER, vol.602, 2021 (SCI-Expanded)
- XXXIV. **Investigation of V-groove fabricated GaInNAs nipi solar cell structure**
Muhammetgulyyev A., Yalçın Y., KURUOĞLU F., ÇOKDUYGULULAR E., KINACI B., EROL A.
Optical and Quantum Electronics, vol.53, no.1, 2021 (SCI-Expanded)
- XXXV. **Effect of annealing process on hot-electron energy relaxation rates in n-type modulation-doped Ga0.68In0.32N0.017As/GaAs quantum wells via deformation potential and piezoelectric scatterings**
Ardali S., Taganov S., EROL A., Tiras E.
PHYSICA E-LOW-DIMENSIONAL SYSTEMS & NANOSTRUCTURES, vol.125, 2021 (SCI-Expanded)
- XXXVI. **Power loss mechanisms in n-type modulation-doped AlGaAs/GaAsBi quantum well heterostructures**
Dönmez Ö., Aydın M., Ardali S., Yildirim S., Tiras E., Erol A., Puustinen J., Hilska J., Guina M.
SEMICONDUCTOR SCIENCE AND TECHNOLOGY, vol.35, 2020 (SCI-Expanded)
- XXXVII. **Ultraviolet Photodetector Based on Mg0.67Ni0.33O Thin Film on SrTiO3**
SARCAN F., Orchard S., Kuerbanjiang B., Skeparovski A., Lazarov V. K., EROL A.
PHYSICA STATUS SOLIDI-RAPID RESEARCH LETTERS, vol.14, no.8, 2020 (SCI-Expanded)
- XXXVIII. **Well-ordered nanoparticle arrays for floating gate memory applications**
Kuruoglu F., Çalışkan M., Serin M., Erol A.
NANOTECHNOLOGY, vol.31, no.21, 2020 (SCI-Expanded)
- XXXIX. **Dilute nitride resonant-cavity light emitting diode**
Sarcan F., Wang Y., Krauss T. F., Erucar T., Erol A.
OPTICS AND LASER TECHNOLOGY, vol.122, 2020 (SCI-Expanded)
- XL. **Electronic transport in n-type modulation-doped AlGaAs/GaAsBi quantum well structures: influence of Bi and thermal annealing on electron effective mass and electron mobility**
Donmez Ö., Aydın M., Ardali S., Yildirim S., Tiras E., Nutku F., Cetinkaya Ç., Cokduygulular E., Puustinen J., Hilska J., et al.
SEMICONDUCTOR SCIENCE AND TECHNOLOGY, vol.35, no.2, 2020 (SCI-Expanded)
- XLI. **Effects of Thermal Annealing and Selective Chemical Etching on Structural and Optical Properties of GaAsBi Epilayer with Droplet Systems**
Erucar T., Kara K., Donmez Ö., Erol A., Arnoult A., Fontaine C.
JOURNAL OF NANOSCIENCE AND NANOTECHNOLOGY, vol.19, no.12, pp.7846-7852, 2019 (SCI-Expanded)
- XLII. **Characterization of a GaAs/GaAsBi pin solar cell**
Muhammetgulyyev A., Erbas Ö. G., Kinaci B., Donmez Ö., Celebi Y. G., Erol A.
SEMICONDUCTOR SCIENCE AND TECHNOLOGY, vol.34, no.8, 2019 (SCI-Expanded)
- XLIII. **Influence of Bi on dielectric properties of GaAs1-xBix alloys**

Ulutas K., Yakut Ş., Bozoglu D., Deger D., Arslan M., Erol A.

MATERIALS SCIENCE-POLAND, vol.37, no.2, pp.244-248, 2019 (SCI-Expanded)

XLIV. V-groove etched 1-eV-GaInNAs nipi solar cell

Muhammetgulyyev A., Kinaci B., Aho A., Yalcin Y., Cetinkaya Ç., Kuruoglu F., Guina M., Erol A.

APPLIED PHYSICS A-MATERIALS SCIENCE & PROCESSING, vol.125, no.1, 2019 (SCI-Expanded)

XLV. Electron Beam Dose and PMMA Thickness Dependent Circularity and Diameter Analysis of Au Nanodots

Kuruoglu F., Yavuzçetin O., Erol A.

CURRENT NANOSCIENCE, vol.15, no.5, pp.486-491, 2019 (SCI-Expanded)

XLVI. Optical properties of GaAs_{1-x}Bix/GaAs quantum well structures grown by molecular beam epitaxy on (100) and (311)B GaAs substrates

Gunes M., Ukelge M. O., Donmez Ö., Erol A., Gumus C., Alghamdi H., Galeti H. V. A., Henini M., Schmidbauer M., Hilska J., et al.

SEMICONDUCTOR SCIENCE AND TECHNOLOGY, vol.33, no.12, 2018 (SCI-Expanded)

XLVII. A study on the voltage-dependent response of a GaInNAs-based pin photodetector with a quasi-cavity

Sarcan F., Nutku F., Nordin M. S., Vickers A. J., Ero A.

SEMICONDUCTOR SCIENCE AND TECHNOLOGY, vol.33, no.11, 2018 (SCI-Expanded)

XLVIII. Thermal oxidation and hydrofluoric acid treatment on the sandblasted implant surface: A histologic histomorphometric and biomechanical study

Qamheya A. H. A., Arisan V., Mutlu Z., Karabagli M., Tekkesin M., Kara K., Erol A., Ersanli S.

CLINICAL ORAL IMPLANTS RESEARCH, vol.29, no.7, pp.741-755, 2018 (SCI-Expanded)

XLIX. A study of electric transport in n- and p-type modulation-doped GaInNAs/GaAs quantum well structures under a high electric field

Sarcan F., Mutlu S., Cokduygular E., Donmez Ö., Erol A., Puustinen J., Guina M.

SEMICONDUCTOR SCIENCE AND TECHNOLOGY, vol.33, no.6, 2018 (SCI-Expanded)

L. Optical properties of n- and p-type modulation doped GaAsBi/AlGaAs quantum well structures

Cetinkaya C., Cokduygular E., Nutku F., Donmez Ö., Puustinen J., Hilska J., Erol A., Guina M.

JOURNAL OF ALLOYS AND COMPOUNDS, vol.739, pp.987-996, 2018 (SCI-Expanded)

LI. Temporal Response of Dilute Nitride Multi-Quantum-Well Vertical Cavity Enhanced Photodetector

Nordin M. S., Sarcan F., Güneş M., Boland-Thoms A., Erol A., Vickers A. J.

JOURNAL OF ELECTRONIC MATERIALS, vol.47, no.1, pp.655-661, 2018 (SCI-Expanded)

LII. Characterization of emitted light from travelling Gunn domains in Al_{0.08}Ga_{0.92}As alloy based Gunn devices

Cetinkaya C., Mutlu S., Donmez Ö., Erol A.

SUPERLATTICES AND MICROSTRUCTURES, vol.111, pp.744-753, 2017 (SCI-Expanded)

LIII. Raman and AFM studies on nominally undoped, p- and n-type GaAsBi alloys

Erol A., Akalin E., Kara K., Aslan M., Bahrami-Yekta V., Lewis R. B., Tiedje T.

JOURNAL OF ALLOYS AND COMPOUNDS, vol.722, pp.339-343, 2017 (SCI-Expanded)

LIV. Characterization of temperature dependent operation of a GaInNAs-based RCEPD designed for 1.3 μ m

Sarcan F., Nordin M. S., Kuruoglu F., Erol A., Vickers A. J.

SUPERLATTICES AND MICROSTRUCTURES, vol.102, pp.27-34, 2017 (SCI-Expanded)

LV. Effect of thermal annealing and nitrogen composition on quantum transport in GaInNAs alloy based modulation doped quantum well structures

Nutku F., Donmez Ö., Cokduygular E., Sarcan F., Kuruoglu F., Mutlu S., Yildirim S., Erol A.

JOURNAL OF ALLOYS AND COMPOUNDS, vol.695, pp.404-409, 2017 (SCI-Expanded)

LVI. Thermal annealing effects on optical and structural properties of GaBiAs epilayers: Origin of the thermal annealing-induced redshift in GaBiAs

Donmez Ö., Kara K., Erol A., Akalin E., Makhoulfi H., Arnoult A., Fontaine C.

JOURNAL OF ALLOYS AND COMPOUNDS, vol.686, pp.976-981, 2016 (SCI-Expanded)

- LVII. Dilute nitride resonant cavity enhanced photodetector with internal gain for the lambda similar to 1.3 μ m optical communications window**
Balkan N., Erol A., Sarcan F., Al-Ghuraibawi L. F. F., Nordin M. S.
SUPERLATTICES AND MICROSTRUCTURES, vol.86, pp.467-471, 2015 (SCI-Expanded)
- LVIII. Optical properties of GaBiAs single quantum well structures grown by MBE**
Donmez Ö., Erol A., Arikan M. C., Makhloufi H., Arnoult A., Fontaine C.
SEMICONDUCTOR SCIENCE AND TECHNOLOGY, vol.30, no.9, 2015 (SCI-Expanded)
- LIX. Quantum oscillations and interference effects in strained n- and p-type modulation doped GaInNAs/GaAs quantum wells**
Sarcan F., Nutku F., Donmez Ö., Kuruoglu F., Mutlu S., Erol A., Yildirim S., Arikan M. C.
JOURNAL OF PHYSICS D-APPLIED PHYSICS, vol.48, no.30, 2015 (SCI-Expanded)
- LX. Negative and positive magnetoresistance in GaInNAs/GaAs modulation-doped quantum well structures**
Nutku F., Donmez Ö., Sarcan F., Erol A., Puustinen J., Arikan M. C., Guina M.
APPLIED PHYSICS A-MATERIALS SCIENCE & PROCESSING, vol.118, no.3, pp.823-829, 2015 (SCI-Expanded)
- LXI. Analytic modeling of temperature dependence of 2D carrier mobility in as-grown and annealed GaInNAs/GaAs quantum well structures**
Donmez Ö., Sarcan F., Lisesivdin S. B., Vaughan M. P., Erol A., Gunes M., Arikan M. C., Puustinen J., Guina M.
SEMICONDUCTOR SCIENCE AND TECHNOLOGY, vol.29, no.12, 2014 (SCI-Expanded)
- LXII. Zero-bias offsets in I-V characteristics of the staircase type quantum well infrared photodetectors**
Nutku F., Erol A., Arikan M. C., Ergun Y.
APPLIED SURFACE SCIENCE, vol.318, pp.95-99, 2014 (SCI-Expanded)
- LXIII. Anisotropic electron g factor as a probe of the electronic structure of GaBi_xAs_{1-x}/GaAs epilayers**
Broderick C. A., Mazzucato S., Carrere H., Amand T., Makhloufi H., Arnoult A., Fontaine C., Donmez Ö., Erol A., Usman M., et al.
PHYSICAL REVIEW B, vol.90, no.19, 2014 (SCI-Expanded)
- LXIV. Magnetotransport study on as-grown and annealed n- and p-type modulation-doped GaInNAs/GaAs strained quantum well structures**
Donmez Ö., Sarcan F., Erol A., Gunes M., Arikan M. C., Puustinen J., Guina M.
NANOSCALE RESEARCH LETTERS, vol.9, 2014 (SCI-Expanded)
- LXV. Bismuth-induced effects on optical, lattice vibrational, and structural properties of bulk GaAsBi alloys**
Sarcan F., Donmez Ö., Kara K., Erol A., Akalin E., Arikan M. C., Makhloufi H., Arnoult A., Fontaine C.
NANOSCALE RESEARCH LETTERS, vol.9, 2014 (SCI-Expanded)
- LXVI. Experimental investigation and numerical modelling of photocurrent oscillations in lattice matched Ga_{1-x}In_xNyAs_{1-y}/GaAs quantum well p-i-n photodiodes**
Royall B., Khalil H., Mazzucato S., Erol A., Balkan N.
NANOSCALE RESEARCH LETTERS, vol.9, 2014 (SCI-Expanded)
- LXVII. Influence of nitrogen on hole effective mass and hole mobility in p-type modulation doped GaInNAs/GaAs quantum well structures**
Sarcan F., Donmez Ö., Erol A., Gunes M., Arikan M. C., Puustinen J., Guina M.
APPLIED PHYSICS LETTERS, vol.103, no.8, 2013 (SCI-Expanded)
- LXVIII. Effects of indium and nitrogen mole concentrations on the optical properties in a GaInNAs/GaAs quantum well under the intense laser field**
UNGAN F., Sakiroglu S., Yesilgul U., Erol A., KASAPOĞLU E., SARI H., Sokmen I.
JOURNAL OF LUMINESCENCE, vol.134, pp.208-212, 2013 (SCI-Expanded)
- LXIX. Excitation energy-dependent nature of Raman scattering spectrum in GaInNAs/GaAs quantum well structures**
Erol A., Akalin E., Sarcan F., Donmez Ö., Akyuz S., Arikan C. M., Puustinen J., Guina M.
NANOSCALE RESEARCH LETTERS, vol.7, 2012 (SCI-Expanded)
- LXX. A study of photomodulated reflectance on staircase-like, n-doped GaAs/Al (x) Ga_{1-x}As quantum**

well structures

Donmez Ö., Nutku F., Erol A., Arikan C. M., Ergun Y.

NANOSCALE RESEARCH LETTERS, vol.7, 2012 (SCI-Expanded)

- LXXI. **Morphology-dependent humidity adsorption kinetics of ZnO nanostructures**
Aşar N., Erol A., Okur S., Arikan M. C.
SENSORS AND ACTUATORS A-PHYSICAL, vol.187, pp.37-42, 2012 (SCI-Expanded)
- LXXII. **Effects of an intense, high-frequency laser field on bound states in Ga_{1-x}In_xNyAs_{1-y}/GaAs double quantum well**
UNGAN F., Yesilgul U., Sakiroglu S., KASAPOĞLU E., Erol A., Arikan M. C., SARİ H., Sokmen I.
NANOSCALE RESEARCH LETTERS, vol.7, 2012 (SCI-Expanded)
- LXXIII. **Acceptor formation in Mg-doped, indium-rich GaxIn_{1-x}N: evidence for p-type conductivity**
Balkan N., Tiras E., Erol A., Gunes M., Ardali S., Arikan M., Lagarde D., Carrere H., Marie X., Gumus C.
NANOSCALE RESEARCH LETTERS, vol.7, 2012 (SCI-Expanded)
- LXXIV. **An analysis of Hall mobility in as-grown and annealed n- and p-type modulation-doped GaInNAs/GaAs quantum wells**
Sarcan F., Donmez Ö., Gunes M., Erol A., Arikan M. C., Puustinen J., Guina M.
NANOSCALE RESEARCH LETTERS, vol.7, 2012 (SCI-Expanded)
- LXXV. **I-V characterization of a quantum well infrared photodetector with stepped and graded barriers**
Nutku F., Erol A., Gunes M., Buklu L. B., Ergun Y., Arikan M. C.
SUPERLATTICES AND MICROSTRUCTURES, vol.52, no.3, pp.585-593, 2012 (SCI-Expanded)
- LXXVI. **The role of dislocation-induced scattering in electronic transport in GaxIn_{1-x}N alloys**
Donmez Ö., Gunes M., Erol A., Arikan C. M., Balkan N., Schaff W. J.
NANOSCALE RESEARCH LETTERS, vol.7, 2012 (SCI-Expanded)
- LXXVII. **Synthesis and humidity sensing analysis of ZnS nanowires**
Okur S., Uzar N., Tekguzel N., Erol A., Arikan M. C.
PHYSICA E-LOW-DIMENSIONAL SYSTEMS & NANOSTRUCTURES, vol.44, no.6, pp.1103-1107, 2012 (SCI-Expanded)
- LXXVIII. **High carrier concentration induced effects on the bowing parameter and the temperature dependence of the band gap of GaxIn_{1-x}N**
Donmez Ö., Gunes M., Erol A., Arikan M. C., Balkan N.
JOURNAL OF APPLIED PHYSICS, vol.110, no.10, 2011 (SCI-Expanded)
- LXXIX. **Influence of high electron concentration on band gap and effective electron mass of InN**
Donmez Ö., YILMAZ M., Erol A., ULUĞ B., Arikan M. C., Ulug A., Ajagunna A. O., Iliopoulos E., Georgakilas A.
PHYSICA STATUS SOLIDI B-BASIC SOLID STATE PHYSICS, vol.248, no.5, pp.1172-1175, 2011 (SCI-Expanded)
- LXXX. **Humidity-sensing properties of a ZnO nanowire film as measured with a QCM**
Erol A., Okur S., Yagmurcukardes N., Arikan M. C.
SENSORS AND ACTUATORS B-CHEMICAL, vol.152, no.1, pp.115-120, 2011 (SCI-Expanded)
- LXXXI. **Humidity sensing properties of ZnO nanoparticles synthesized by sol-gel process**
Erol A., Okur S., Comba B., Mermer O., Arikan M. C.
SENSORS AND ACTUATORS B-CHEMICAL, vol.145, no.1, pp.174-180, 2010 (SCI-Expanded)
- LXXXII. **Electronic transport in n- and p-type modulation-doped GaInNAs/GaAs quantum wells**
Sun Y., Balkan N., Erol A., Arikan M. C.
MICROELECTRONICS JOURNAL, vol.40, no.3, pp.403-405, 2009 (SCI-Expanded)
- LXXXIII. **Optical and electrical properties of modulation-doped n and p-type GaxIn_{1-x}NyAs_{1-y}/GaAs quantum wells for 1.3 μm laser applications**
Sun Y., Erol A., YILMAZ M., Arikan M. C., ULUĞ B., Ulug A., Balkan N., Sopanen M., REENTILAE O., MATTILA M., et al.
OPTICAL AND QUANTUM ELECTRONICS, vol.40, no.7, pp.467-474, 2008 (SCI-Expanded)
- LXXXIV. **The mechanisms of the direct vascular effects of fentanyl on isolated human saphenous veins in vitro**
Sahin A., Duman A., Atalik E., Ogun C., Sahin T., EROL A., Ozergin U.
JOURNAL OF CARDIOTHORACIC AND VASCULAR ANESTHESIA, vol.19, no.2, pp.197-200, 2005 (SCI-Expanded)
- LXXXV. **Effect of fast thermal annealing on the optical spectroscopy in MBE- and CBE-grown GaInNAs/GaAs**

QWs: blue shift versus red shift

Balkan N., Mazzucato S., Erol A., Hepburn C., Potter R., Boland-Thoms A., Vickers A., Chalker P., Joyce T., Bullough T.
IEE PROCEEDINGS-OPTOELECTRONICS, vol.151, no.5, pp.284-289, 2004 (SCI-Expanded)

- LXXXVI. **Spectral photoconductivity and in-plane photovoltage studies of as-grown and annealed GaInNAs/GaAs and GaInAs/GaAs quantum well structures**
Erol A., Akcay N., Arikan M., Mazzucato S., Balkan N.
SEMICONDUCTOR SCIENCE AND TECHNOLOGY, vol.19, no.9, pp.1086-1091, 2004 (SCI-Expanded)
- LXXXVII. **Remifentanyl has different effects on thoracic aorta strips in different species, in vitro**
Duman A., Ogun C., Sahin A., Atalik K., EROL A., Okesli S.
ACTA ANAESTHESIOLOGICA SCANDINAVICA, vol.48, no.3, pp.390, 2004 (SCI-Expanded)
- LXXXVIII. **Photoconductivity and In-plane Photovoltage studies in GaInNAs/GaAs quantum wells**
Mazzucato S., Boland-Thoms A., Erol A., Balkan N.
PHYSICA SCRIPTA, pp.236-239, 2004 (SCI-Expanded)
- LXXXIX. **Temperature dependence of the threshold electric field in a hot electron VCSEL**
Erol A., Balkan N., Arikan M., Serpenguzel A., Roberts J.
IEE PROCEEDINGS-OPTOELECTRONICS, vol.150, no.6, pp.535-540, 2003 (SCI-Expanded)
- XC. **Photo-induced transient spectroscopy of defect levels in GaInNAs**
Erol A., Mazzucato S., Arikan M., Carrere H., Arnoult A., Bedel E., Balkan N.
SEMICONDUCTOR SCIENCE AND TECHNOLOGY, vol.18, no.11, pp.968-972, 2003 (SCI-Expanded)
- XCI. **S-shaped behaviour of the temperature-dependent energy band gap in dilute nitrides**
Mazzucato S., Potter R., Erol A., Balkan N., Chalker P., Joyce T., Bullough T., Marie X., Carrere H., Bedel E., et al.
PHYSICA E-LOW-DIMENSIONAL SYSTEMS & NANOSTRUCTURES, vol.17, pp.242-244, 2003 (SCI-Expanded)
- XCII. **Comparison of theoretical models for interband transitions in dilute nitrides and experimental measurement**
Potter R., Alexandropoulos D., Erol A., Mazzucato S., Balkan N., Adams M., Marie X., Carrere H., Bedel E., Lacoste G., et al.
PHYSICA E-LOW-DIMENSIONAL SYSTEMS & NANOSTRUCTURES, vol.17, pp.240-241, 2003 (SCI-Expanded)
- XCIII. **Photo-induced transient spectroscopy and in-plane photovoltage in GaInNAs/GaAs quantum wells**
Mazzucato S., Erol A., Teke A., Arikan M. Ç., Potter R., Balkan N., Marie X., Boland-Thoms A., Carrere H., Bedel E., et al.
PHYSICA E-LOW-DIMENSIONAL SYSTEMS & NANOSTRUCTURES, vol.17, pp.250-251, 2003 (SCI-Expanded)
- XCIV. **In-plane photovoltage and photoluminescence studies in sequentially grown GaInNAs and GaInAs quantum wells**
Mazzucato S., Balkan N., Teke A., Erol A., Potter R., Arikan M. Ç., Marie X., Fontaine C., Carrere H., Bedel E., et al.
JOURNAL OF APPLIED PHYSICS, vol.93, no.5, pp.2440-2448, 2003 (SCI-Expanded)
- XCV. **Optical properties of GaInNAs/GaAs quantum wells**
Mazzucato S., Erol A., Potter R., Balkan N., Chalker P., Thomas S., Joyce T., Bullough T.
SOLID-STATE ELECTRONICS, vol.47, no.3, pp.483-487, 2003 (SCI-Expanded)

Articles Published in Other Journals

- I. **Effect of Annealing on Electronic Transport in Modulation-doped In_{0.32}Ga_{0.68}As/GaAs Quantum Well Structures**
Rajhi A., Aydın M., Dönmez Ö., Sarcan F., Erol A.
Physics and Astronomy Reports, vol.2, no.1, pp.29-36, 2024 (Peer-Reviewed Journal)
- II. **Optical characterization of Ga_{0.965}Mn_{0.03}Cr_{0.005}As thin film grown by molecular beam epitaxy**
Dönmez Ö., Güneş M., Erol A.
Artubilim: Adana Alparslan Türkeş Bilim ve Teknoloji Üniversitesi Fen Bilimleri Dergisi, vol.4, no.2, pp.44-49, 2021 (Peer-Reviewed Journal)
- III. **İstanbul Üniversitesi Gözlemevi Odak Düzlemi Aygıtı Test ve Karakterizasyon Laboratuvarı**
Aliş S., Güver T., Erol A., Ege E., Kay B., Yelkenci F. K., Yeşilyaprak C., Keskin O., Yerli S. K., Sarcan F., et al.

Turkish Journal of Astronomy and Astrophysics, vol.1, no.2, pp.755-757, 2020 (Conference Book)

- IV. **Investigating above-bandgap and below-bandgap optical transition in GaBiAs epilayers by photoreflectance spectroscopy**
DÖNMEZ Ö., EROL A.
TURKISH JOURNAL OF PHYSICS, vol.44, no.4, pp.384-393, 2020 (ESCI)

Books & Book Chapters

- I. **The World According to Physics**
Erol A.
Epsilon Yayınları, İstanbul, 2023
- II. **Semiconductors for Optoelectronics**
Balkan N., Erol A.
Springer, London/Berlin , Berlin, 2021
- III. **Yarıiletkenler ve Optoelektronik Uygulamaları**
EROL A., Balkan N.
Seçkin Yayıncılık, Ankara, 2013
- IV. **Photoconductivity and Transient Spectroscopy**
Erol A., Arıkan M. Ç.
in: Semiconductor Research Experimental Techniques, Amalia Patane, Naci Balkan, Editor, Springer, London/Berlin , Berlin, pp.333-365, 2012
- V. **Dilute III-V Nitride Semiconductors and Material Systems: Physics and Technology**
Erol A.
Springer, London/Berlin , Berlin, 2008
- VI. **Çevremizdeki Fizik**
Balkan N., Erol A.
Tübitak, Ankara, 2005

Refereed Congress / Symposium Publications in Proceedings

- I. **Chemical treatment on two-dimensional Transition Metal Dichalcogenides: MoS₂ and MoTe₂**
Bostan Y. K., Hut E., Armstrong A., Kalyon G., McKenna K., Erol A., Wang Y., Sarcan F.
18th International Nanoscience and Nanotechnology Conference (NanoTR-18), İstanbul, Turkey, 26 - 28 August 2024, vol.1, no.80, pp.160
- II. **Suspended monolayer two-dimensional materials based diodes**
Kalyon G., Hut E., Wang Y., Erol A., Sarcan F.
18th International Nanoscience and Nanotechnology Conference (NanoTR-18), İstanbul, Turkey, 26 - 28 August 2024, vol.1, no.81, pp.298
- III. **Anomalous Temperature-Dependent Carrier Dynamics and Magnetotransport Properties of InSb Grown by MBE and MOCVD**
AYDIN M., GÜNEŞ M., DÖNMEZ Ö., Henini M., EROL A.
18th International Nanoscience and Nanotechnology Conference, İstanbul, Turkey, 26 - 28 August 2024
- IV. **Formation of quasi-two-dimensional electron transport in bulk InGaAsBi layer**
AYDIN M., YILMAZ S. N., EROL A., Bork J., Zide J., DÖNMEZ Ö.
18th International Nanoscience and Nanotechnology Conference, İstanbul, Turkey, 26 - 28 August 2024
- V. **MICROPARTICLE PATTERNING via PIEZOELECTRIC PHONONIC CRYSTALS**
Genç N. S., Çiçek A., Erol A., Kuruoğlu F.
18th International Nanoscience and Nanotechnology Conference, İstanbul, Turkey, 26 - 28 August 2024, pp.49
- VI. **An investigation of the doping effects on the structural properties of the β -Ga₂O₃ (001)**

Yılmaz S. N., Doğan Ü., Sarcan F., Erol A., Kuş E., Nuhoglu D., Taşaltın C., Öztürk Y., Dönmez Ö.

18th International Nanoscience and Nanotechnology Conference, İstanbul, Turkey, 26 - 28 August 2024, pp.42

- VII. **Atomically thin p–n junctions based on two-dimensional materials**
Kalyon G., Hut E., Wang Y., Erol A., Sarcan F.
2D Material Conference, Munich, Germany, 3 - 08 June 2024, pp.102
- VIII. **Effect of Chemical Doping of 2D TMDs on Optical and Electrical Properties**
Hut E., Bostan Y. K., Kalyon G., Armstronge A., Mckenna K., Wang Y., Erol A., Sarcan F.
2D Material Conference, Munich, Germany, 3 - 08 June 2024, pp.99
- IX. **Functionalization of 2D materials for electronic and optoelectronic applications**
Sarcan F., Erol A., Wang Y.
2D Materials Conference, Munich, Germany, 3 - 08 June 2024, pp.1
- X. **Gunn Oscillations in n-type InGaAs Epilayer Structures**
Kalyon G., Demir İ., Perkitel İ., Mutlu S., Erol A.
INTERNATIONAL GRADUATE RESEARCH SYMPOSIUM, 1 - 03 June 2022, pp.332
- XI. **Gunn Effect in InGaAs Epilayer Structures**
Kalyon G., Mutlu S., Perkitel İ., Demir İ., Erol A.
16th NANOSCIENCE & NANOTECHNOLOGY CONFERENCE, Ankara, Turkey, 5 - 08 September 2022, pp.67
- XII. **Effect of rapid thermal annealing on structural and morphological properties of n-type GaAsBi epilayer**
AYDIN M., DÖNMEZ Ö., EROL A.
16th NANOSCIENCE & NANOTECHNOLOGY CONFERENCE, Ankara, Turkey, 5 - 08 September 2022
- XIII. **Tailoring the optical properties of suspended and flat 2D transition metal dichalcogenides**
Sarcan F., Fairbairn N. J., Zotev P., Erol A., Tartakovskii A., Krauss T., Hedley G. J., Wang Y.
16th International Nanoscience and Nanotechnology Conference, Ankara, Turkey, 5 - 08 September 2022, pp.1
- XIV. **An electric field induced hot electron transport in GaAsBi alloys**
Aydın M., Mutlu S., Dönmez Ö., Erol A.
NANOTR, Ankara, Turkey, 5 - 08 September 2022, pp.1
- XV. **Optical and Electrical Properties of MBE Grown CuNiO and MgNiO Alloys**
Doğan Ü., Sarcan F., Althumali A., Kerrigan A., Lazarov V. K., Erol A.
International Graduate Research Symposium – IGRS'22, İstanbul, Turkey, 1 - 03 June 2022, vol.1, no.1, pp.1
- XVI. **Defect engineering of two-dimensional transition metal dichalcogenides**
Sarcan F., Wang Y., Erol A.
International Two-Dimensional Nanomaterials Conference , İstanbul, Turkey, 25 - 27 May 2022, pp.1
- XVII. **Fabrication and Characterisation of InGaAs Gunn Diode-Based Light Emitting Device**
Kalyon G., Mutlu S., Perkitel I., Demir İ., Erol A.
3rd International Eurasian Conference On Science, Engineering And Technology, Ankara, Turkey, 15 - 17 December 2021, pp.135
- XVIII. **Optical and electrical characterization of InGaAs epitaxial layers**
Ammı S. M., Kalyon G., Mutlu S., Perkitel I., Demir İ., Erol A.
3rd International Eurasian Conference On Science, Engineering And Technology, Ankara, Turkey, 15 - 17 December 2021, pp.137
- XIX. **OPTICAL AND STRUCTURAL CHARACTERISATION OF TERNARY CHALCOGENIDE TLSEBSE2**
Aydın M., Kuruoğlu F., Sarcan F., Dönmez Ö., Yıldırım S., Erol A.
International Marmara Sciences Congress (Autumn) 2020, Kocaeli, Turkey, 4 - 05 December 2020, pp.49
- XX. **OPTOELEKTRONİK: YARIİLETKENLERİN YARATTIĞI RENKLİ DÜNYA**
Erol A.
TÜBA Akademi Konferansları, İstanbul, Turkey, 29 January 2020
- XXI. **Dilute Nitride-based Resonant Cavity Light Emitter for Optical Communication**
SARCAN F., Wang Y., Krauss T., Eruçar T., EROL A.
42. PIERS Photonics & Electromagnetics Research Symposium, Xiamen, China, 17 - 20 December 2019, pp.200
- XXII. **Vertical Cavity based Optoelectronics devices for 1.3 um wavelength applications**

- SARCAN F., EROL A.
Intertanional Eurasian Conference on Science, Engineering and Technology, Ankara, Turkey, 22 - 23 November 2019, pp.1
- XXIII. **GaInNAs-based Resonant Cavity Light Emitter and Phototector for Optical Communication at 1.3 μm**
SARCAN F., EROL A., Wang Y., Eruçar T., Krauss T.
IV. Uluslararası Bilimsel ve Mesleki Çalışmalar Kongresi – Mühendislik, Ankara, Turkey, 7 - 10 November 2019, pp.1
- XXIV. **GaInNAs-based vertical cavity devices for 1.3 μm applications**
SARCAN F., EROL A.
International Eurasian Conference on Science, Engineering Technology, Ankara, Turkey, 22 - 23 November 2018, pp.180
- XXV. **Recent Developments at I'stanbul University Observatory**
Güver T., Aliş S., Erol A., Ege E., Tüysüz M., Fişek S., Kaptan S., Kay B., Sarcan F., Yelkenci F. K., et al.
34. Uluslararası Fizik Kongresi - TFD, Muğla, Turkey, 5 - 09 September 2018
- XXVI. **Electronic Transport Properties of Ga $_{1-x}$ YMnxCryAs Films**
ÇOKDUYGULULAR E., DÖNMEZ Ö., EROL A., Güneş M.
Türk Fizik Derneği 34. Uluslararası Fizik Kongresi, Muğla, Turkey, 5 - 09 September 2018, pp.277
- XXVII. **Well Ordered Au Nanodot Arrays for Memory Applications**
KURUOĞLU F., Çalışkan M., Serin M., Yavuzçetin Ö., EROL A.
Turkish Physical Society 34nd International Physics Congresses, Muğla, Turkey, 5 - 09 September 2018, pp.193
- XXVIII. **Electrical Properties Of Modulation Doped Bi-Containing Highly Mismatched Quantum Well Structures**
ÇETİNKAYA Ç., ÇOKDUYGULULAR E., DÖNMEZ Ö., EROL A., NUTKU F., YILDIRIM S.
Turkish Physical Society 34th International Physics Congress, Muğla, Turkey, 5 - 09 September 2018, vol.34, pp.273
- XXIX. **Characterization of GaInNAs-based IR Emitters**
SARCAN F., Eruçar T., EROL A.
Türk Fizik Derneği 34. Uluslararası Fizik Kongresi, Muğla, Turkey, 5 - 09 September 2018, pp.267
- XXX. **EFFECT OF BI ALLOYING ON THE OPTICAL PROPERTIES OF MODULATION DOPED GAASBI/ALGAAS QUANTUM WELL STRUCTURES**
ÇETİNKAYA Ç., ÇOKDUYGULULAR E., NUTKU F., DÖNMEZ Ö., EROL A.
Türk Fizik Derneği 34. Uluslararası Fizik Kongresi, Muğla, Turkey, 5 - 09 September 2018, pp.273
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Rajhi A., Aydın M., ÇOKDUYGULULAR E., ÇETİNKAYA Ç., DÖNMEZ Ö., YILDIRIM S., SARCAN F., EROL A.
Türk Fizik Derneği 34. Uluslararası Fizik Kongresi, Muğla, Turkey, 5 - 09 September 2018, pp.161
- XXXII. **A study on deep level defect assisted absorption in dilute GaBiAs alloys**
Dönmez Ö., Erol A.
Turkish Physical Society 34. International Physics Congress, Muğla, Turkey, 3 - 07 September 2018, vol.1, no.1, pp.260
- XXXIII. **Biocompatibility Evaluation of Coaxial Electrospun PLA/BHA/GO Composite Nanofibers**
Erdemir G., Gündüz O., Ege Z. R., Özen S., Kuruoğlu F., Erol A., Kuruca D. S.
International Congress on Engineering and Life Science, Kastamonu, Turkey, 26 - 29 April 2018, pp.788
- XXXIV. **Examination of the Biocompatibility of Electrospun Pla/Sa/Ha Composite Nanofibers for the Bone Tissue Engineering Applications**
Erdemir G., Gündüz O., Cesur S., Kuruoğlu F., Erol A., Kuruca D. S.
International Congress on Engineering and Life Science, Kastamonu, Turkey, 26 - 29 April 2018, pp.787
- XXXV. **A Comparison Of Characteristics of Heterojunction pin Solar Cells Based On Dilute Bismide And Dilute Nitride Alloys**
Muhammedgulyev A., SARCAN F., Göksel Ö., KINACI B., DÖNMEZ Ö., ÇELEBİ Y. G., EROL A.
International Conference On Condensed Matter And Materials science, Adana, Turkey, 11 - 15 October 2017, pp.25
- XXXVI. **Charge Storage Properties of Au Nanodots Embedded MOS Capacitor**

- KURUOĞLU F., Çalışkan M., Serin M., EROL A., Yavuzçetin Ö.
International Conference on Condensed Matter and Materials Science, Adana, Turkey, 11 - 15 October 2017, pp.101
- XXXVII. **Optical and Electrical Properties of n- and p-type Modulation Doped GaAs_{1-x}Bi_x/Al_{0.15}Ga_{0.85}As Single Quantum Well Heterostructure**
ÇETİNKAYA Ç., ÇOKDUYGULULAR E., NUTKU F., DÖNMEZ Ö., Puustinen J., EROL A., Guina M.
International Conference on Condensed Matter and Material Sciences, Adana, Turkey, 11 - 15 October 2017, pp.125
- XXXVIII. **Hot Electron transport based devices for optoelectronics**
EROL A., MUTLU S., Lisesivdin S. B., Tıraş E.
International conference on condensed matter and materials science, Adana, Turkey, 11 - 15 October 2017, pp.21
- XXXIX. **Photoluminescence Study of GaAs/AlGaAs and GaAsBi/AlGaAs Modulation Doped Quantum Well Structures**
ÇETİNKAYA Ç., ÇOKDUYGULULAR E., NUTKU F., DÖNMEZ Ö., Puustinen J., EROL A., Guina M.
Türk Fizik Derneği 33. Uluslararası Fizik Kongresi, Muğla, Turkey, 6 - 10 September 2017, pp.125
- XL. **Characterization Of Heterojunction pin solar Cells Based On Dilute Bismide And Dilute Nitride**
Muhammedgulyev A., SARCAN F., KINACI B., DÖNMEZ Ö., EROL A.
8th International Workshop on Bismuth-Containing Semiconductors, Marburg, Germany, 23 July 2017 - 26 July 2016, pp.97
- XLI. **Optical characterization of n- and p-type modulation doped GaAsBi/AlGaAs quantum well structures**
ÇETİNKAYA Ç., ÇOKDUYGULULAR E., NUTKU F., DÖNMEZ Ö., Puustinen J., EROL A., Guina M.
8. International Workshop on Bismuth-Containing Semiconductors Philipps-Universitat Marburg, Marburg, Germany, 23 - 26 July 2017, pp.125
- XLII. **Influence of chemical process on structural and optical properties of as-grown and thermal annealed GaAsBi alloys**
Eruçar T., DÖNMEZ Ö., EROL A.
8th International Workshop on Bismuth-Containing Semiconductors, Marburg, Germany, 23 - 26 July 2017, vol.1, no.1, pp.1
- XLIII. **Comparative Study of Multi Quantum Well Photodetector Characterization Based on GaInNAs for 1µm Wavelength**
Nordin M. S., Mohmad A. R., SARCAN F., EROL A., Boland-Thoms A., Vickers A. J.
UK Semiconductor, Sheffield, United Kingdom, 12 - 15 July 2017, pp.71
- XLIV. **GaInNAs(sb) Multi Quantum well Vertical Cavity Enhanced Photodetector**
Nordin M. S., SARCAN F., Evans M., EROL A., Boland-Thoms A., Vickers A. J.
Semiconductor And Integrated Opto- Electronics Conference, Cardiff, United Kingdom, 18 - 20 April 2017, pp.103
- XLV. **Evolution of HELLISH devices: Colourful story of HELLISH devices from IR to VIS light**
MUTLU S., Tıraş E., EROL A., Lisesivdin S. B.
The physics of optoelectronic materials and devices, Essex, United Kingdom, 27 - 28 March 2017, pp.41
- XLVI. **Comparative Study of Multi Quantum Well GaInNAs Photodetector Characterisation**
Nordin M. S., SARCAN F., EROL A., Boland-Thoms A., Vickers A. J.
The Physics Of Optoelectronic Materials And Devices, Essex, United Kingdom, 27 - 28 March 2017, pp.10
- XLVII. **Electronic bandstructure of semiconductor dilute bismide structures**
ERUCAR T., NUTKU F., DÖNMEZ Ö., EROL A.
Turkish Physical Society 32nd International Physics Congress, TPS 2016, Konacik-Bodrum, Turkey, 6 - 09 September 2016, vol.1815
- XLVIII. **Design Issues and Characterization of a GaInNAs-based Resonance Cavity Enhanced Photodetector**
SARCAN F., Nordin M. S., KURUOĞLU F., EROL A., Vickers A. J.
Nanophotonic and Micro/Nano Optic International Conference,, Paris, France, 7 - 09 December 2016, pp.133
- XLIX. **CHARACTERIZATION OF HETERO-STRUCTURE SINGLE PIN JUNCTION SOLAR CELL BASED ON III-N-V AND III-BI-V ALLOYS**
Muhammetgulyev A., KINACI B., DÖNMEZ Ö., EROL A.
SOLARTR 2016, İstanbul, Turkey, 6 - 08 December 2016, pp.212

- L. **Light Emission from Al_{0.08}Ga_{0.92}As Gunn Device**
 ÇETİNKAYA Ç., MUTLU S., DÖNMEZ Ö., EROL A.
 Nanophotonics and Micro/Nano Optics International Conference, Paris, France, 1 - 10 December 2016, pp.10
- LI. **GaInNAs Based Resonance Cavity Enhanced Photodetector For Optical Communication Wavelength**
 SARCAN F., Nordin M. S., EROL A., Vickers A. J.
 Türk Fizik Derneği 32. Uluslararası Fizik Kongresi, Muğla, Turkey, 6 - 09 September 2016, pp.106
- LII. **Nanodot Exposure in Different size With Using Electron Beam Lithography**
 KURUOĞLU F., Yavuzçetin Ö., EROL A., Çalışkan M., Serin M.
 Turkish Physical Society 32nd International Physics Congress, Muğla, Turkey, 6 - 09 September 2016, pp.1
- LIII. **Stimulated Light Emission from Gunn Domains in Fabry Pérot Al_{0.08} Ga_{0.92}As Gunn Device**
 ÇETİNKAYA Ç., MUTLU S., DÖNMEZ Ö., EROL A.
 Turkish Physical Society 32nd International Physics Congress, Muğla, Turkey, 6 - 10 September 2016, pp.89
- LIV. **Investigation of Electronic Transport Properties in GaInNAs/GaAs Quantum Well Structures**
 NUTKU F., DÖNMEZ Ö., ÇOKDUYGULULAR E., SARCAN F., KURUOĞLU F., MUTLU S., YILDIRIM S., EROL A.
 Türk Fizik Derneği 32. Uluslararası Fizik Kongresi, Muğla, Turkey, 6 - 09 September 2016, pp.125
- LV. **Electronic transport properties of p-type GaInNAs/GaAs quantum well structures**
 MUTLU S., ÇOKDUYGULULAR E., ÇETİNKAYA Ç., SARCAN F., DÖNMEZ Ö., EROL A.
 Türk Fizik Derneği 32. Uluslararası Fizik Kongresi, Muğla, Turkey, 6 - 09 September 2016, pp.125
- LVI. **INVESTIGATION OF ELECTRONIC TRANSPORT PROPERTIES IN GaInNAs/GaAs QUANTUM WELL STRUCTURES**
 NUTKU F., DÖNMEZ Ö., Çokduygulular E., SARCAN F., KURUOĞLU F., MUTLU S., YILDIRIM S., EROL A.
 Turkish Physical Society 32nd International Physics Congress, Muğla, Turkey, 6 - 09 September 2016, vol.32, pp.129
- LVII. **Status of the Focal Plane Instrumentation (FPI) Project of the 4 m DAG Telescope**
 KESKİN O., YERLİ S. K., YEŞİLYAPRAK C., Guver T., Alis S., Yelkenci F. K., Guçsav B. B., ÖZBEY ARABACI M., Erol A.
 Conference on Ground-Based and Airborne Instrumentation for Astronomy VI, Edinburgh, Saint Helena, 26 - 30 June 2016
- LVIII. **A Microwave Kinetic Inductance Detector for the DAG Telescope**
 Guver T., MAZIN B. A., O'Brien K., Kay B., Alis S., Yelkenci F. K., YEŞİLYAPRAK C., YERLİ S. K., Erol A., Keskin O.
 Conference on High Energy, Optical, and Infrared Detectors for Astronomy VII, Edinburgh, Saint Helena, 26 - 29 June 2016
- LIX. **Temperature and electric field dependence of localization in modulation doped GaInNAs/GaAs quantum well structures**
 YILDIRIM S., EROL A., SARCAN F., NUTKU F., KURUOĞLU F., DÖNMEZ Ö.
 9th International Physics Conference of the Balkan Physical Union-BPU9, İstanbul, Turkey, 24 - 27 August 2015, vol.9, pp.161
- LX. **Investigation of Light Emission Based on Gunn Effect in n -type GaAs**
 ÇETİNKAYA Ç., MUTLU S., DÖNMEZ Ö., EROL A.
 9th International Physics Conference of the Balkan Physical Union, İstanbul, Turkey, 24 - 27 August 2015, pp.421
- LXI. **Optical and structural properties of as-grown and annealed GaAsBi epilayers**
 DÖNMEZ Ö., KARA K., EROL A., Makhloufi ., Arnoult A., Fontaine .
 9th International Physics Conference of the Balkan Physical Union-BPU9, İstanbul, Turkey, 24 - 27 August 2015, pp.152
- LXII. **Weak Localization and Weak Antilocalization in n- and p-type Modulation Doped GaInNAs/GaAs Quantum Wells**
 NUTKU F., SARCAN F., DÖNMEZ Ö., KURUOĞLU F., MUTLU S., EROL A., YILDIRIM S., ARIKAN M. Ç.
 İstanbul Üniversitesi Dünya Teknoloji, İnovasyon ve Girişimcilik Konferansı, İSTANBUL, TÜRKİYE, 28-30 Mayıs 2015, İstanbul, Turkey, 28 - 30 May 2015, pp.80
- LXIII. **Dilute Nitride Resonant Cavity Enhanced Photodetector With Internal Gain For Operation At 1.286 um**
 Balkan N., EROL A., SARCAN F., Nordin M. S.

Spie Optics And Optoelectronics, Prague, Czech Republic, 13 - 16 April 2015, pp.48

- LXIV. **Analytic Modeling Of Temperature Dependence of 2D Carrier Mobility In As Grown And Annealed GaInNAs/GaAs Quantum Well Structures**
DÖNMEZ Ö., SARCAN F., Vaughan M., EROL A., Güneş M., ARIKAN M. Ç., Puustinen J., ARIKAN M. Ç.
Türk Fizik Derneği 31. Uluslararası Fizik Kongresi, Muğla, Turkey, 21 - 25 July 2014, pp.143
- LXV. **Magnetoresistance in n- and p-type GaInNAs GaAs Modulation Doped Quantum Well Structures**
NUTKU F., SARCAN F., DÖNMEZ Ö., EROL A., ARIKAN M. Ç.
Türk Fizik Derneği 31. Uluslararası Fizik Kongresi, Muğla, Bodrum., Muğla, Turkey, 21 - 25 July 2014, pp.137
- LXVI. **An investigation of Bismuth-related effects on GaAsBi/GaAs epilayers**
AKALIN E., EROL A., Arıkan Ç. M., KARA K., Aslan M., Lewis R., Tiedje T.
5th International Workshop on Bismuth Containing Semiconductors, Cork, Ireland, 21 - 23 July 2014, pp.1
- LXVII. **Optical Properties of GaAsBi Ternary Alloy**
SARCAN F., EROL A., ARIKAN M. Ç., Fontaine C.
Novel Gain Materials And Devices Based On III-V-N/Bi Compounds, İstanbul, Turkey, 24 - 26 September 2013, pp.41
- LXVIII. **Investigation of GaBiAs Alloy Using Raman spectroscopy**
AKALIN E., EROL A., SARCAN F., ARIKAN M. Ç., Fontaine C.
Novel Gain Materials And Devices Based On III-V-N/Bi Compounds, İstanbul, Turkey, 24 - 26 September 2013, pp.47
- LXIX. **Thermal Annealing And Nitrogen Induced Effects On Electronic Transport in n- and p-type Modulation Doped GaInNAs GaAs Quantum Well Structures**
DÖNMEZ Ö., SARCAN F., EROL A., Güneş M., ARIKAN M. Ç., Puustinen J., Guina M.
Novel Gain Materials And Devices Based On III-V-N/Bi Compounds, İstanbul, Turkey, 24 - 26 September 2013, pp.40
- LXX. **Electronic Transport in n- and p-type modulation doped Ga_{1-x}In_xNyAs_{1-y} /GaAs quantum well structures**
ÇETİNKAYA Ç., DÖNMEZ Ö., EROL A., Arıkan Ç., Puustinen J., Mircea G.
30th International Physics Congress by Turkish Physical Society, Muğla, Turkey, 1 - 02 September 2013, pp.1
- LXXI. **Zero-bias offsets in I-V characteristics of the staircase type quantum well infrared photodetectors**
NUTKU F., EROL A., Arıkan M. Ç., Ergün Y.
Nanobilim ve Nanoteknoloji Konferansı 2013 - NanoTR-9, Erzurum, Turkey, 24 - 28 June 2013, pp.354
- LXXII. **Effect of Alloy and Interface Roughness Scatterings On The Carrier Mobility in n- and p-type Modulation Doped GaInNAs/GaAs Quantum Well Structures**
SARCAN F., DÖNMEZ Ö., Vaughan M. P., EROL A., ARIKAN M. Ç., Puustinen J., Guina M.
17th European Molecular Beam Epitaxy Workshop, Levi, Finland, 10 - 13 March 2013, pp.246
- LXXIII. **Investigation Of Nitrogen Dependent In Plane Electron And Hole Effective Masses In GaInNAs/GaAs Quantum Well**
SARCAN F., DÖNMEZ Ö., Vaughan M. P., EROL A., ARIKAN M. Ç., Puustinen J., Guina M.
17th European Molecular Beam Epitaxy Workshop, Levi, Finland, 10 - 13 March 2013, pp.300
- LXXIV. **An Analysis Of Scattering Mechanisms In As Grown And Annealed N And P Type Modulation Doped GaInNAs GaAs Quantum Wells**
SARCAN F., DÖNMEZ Ö., Güneş M., EROL A., ARIKAN M. Ç., Puustinen J., Guina M.
Türk Fizik Derneği 29. Uluslararası Fizik Kongresi, Muğla, Turkey, 5 - 08 September 2012, pp.139
- LXXV. **USING INFRARED AND RAMAN SPECTROSCOPY TECHNIQUES IN ANALYSIS OF Ga_{1-x}In_xNyAs_{1-y} /GaAs QUANTUM WELL STRUCTURES**
AKALIN E., EROL A., Sarcan F., DÖNMEZ Ö., Arıkan Ç. M., Puustinen J., Guina M.
Türk Fizik Derneği 29. Uluslararası Fizik Kongresi, Turkey, 1 - 04 September 2012, pp.3
- LXXVI. **A Comprehensive Study Of Optical Characterization of n- and p-type As Grown And Annealed Modulation Doped GaAs GaInNAs Qw Structures**
DÖNMEZ Ö., SARCAN F., EROL A., ARIKAN M. Ç., UGAN F., KASAPOĞLU E., SARI H., Puustinen J., Guina M.
International Conference On Superlattices, Nanostructures and Nanodevices, Dresden, Germany, 22 - 27 July 2012

- LXXVII. **An Analysis of Hall Mobility In As Grown And Annealed n- and p-type Modulation Doped GaInNAs/GaAs quantum Wells**
SARCAN F., DÖNMEZ Ö., Güneş M., EROL A., ARIKAN M. Ç., Puustinen J., Guina M.
International Conference On Superlattices, Nanostructures and Nanodevices, Dresden, Germany, 22 - 27 July 2012, pp.359
- LXXVIII. **A Study of Photomodulated Reflectance on Staircase n-type GaAs/Al_xGa_{1-x}As Quantum Well Structures**
DÖNMEZ Ö., NUTKU F., EROL A., ARIKAN M. Ç., ERGÜN Y.
International Conference on Superlattices, Nanostructures and Nanodevices, ICSNN2012, Germany, 1 - 04 July 2012, pp.91
- LXXIX. **Characterization of as-grown and annealed modulation doped Ga_{1-x}In_xNyAs_{1-y} /GaAs quantum well structures using Infrared spectroscopy and Raman scattering techniques**
AKALIN E., EROL A., Akyüz S., Arıkan Ç. M., Puustinen J., Guina M.
International Conference on Superlattices, Nanostructures, and Nanodevices (ICSNN 2012), Germany, 1 - 04 July 2012, pp.348
- LXXX. **I-V Characteristics and Electron Exchange Interactions in a Staircase Quantum Well Infrared Photodetector**
NUTKU F., EROL A., ERGÜN Y., ARIKAN M. Ç.
Nanobilim ve Nanoteknoloji Konferansı 2012 – NanoTR-8, Ankara, Turkey, 1 - 04 June 2012, pp.375
- LXXXI. **Negative Magnetoresistance and Impurity Band Conduction in GaAs/AlGaAs Quantum Well Infrared Photodetector Structure**
Kendirlik M., NUTKU F., EROL A., ERGÜN Y., ARIKAN M. Ç.
Nanobilim ve Nanoteknoloji Konferansı 2012 – NanoTR-8, Ankara, Turkey, 1 - 04 June 2012, pp.326
- LXXXII. **A Comparative Study On Electronic Transport Properties of n- and p-type Modulation Doped GaInAs GaAs And Dilute Nitride GaInNAs/GaAs Quantum Well**
Güneş M., DÖNMEZ Ö., SARCAN F., EROL A., ARIKAN M. Ç., Puustinen J., Guina M.
European Materials Research Society, Strazburg, France, 14 - 18 May 2012, pp.16
- LXXXIII. **Effect of Thermal Annealing On Optical And Electronic Transport Properties in n- and p-type Modulation Doped GaInNAs/GaAs Quantum Wells**
SARCAN F., DÖNMEZ Ö., Güneş M., EROL A., ARIKAN M. Ç., Puustinen J., Guina M.
European Materials Research Society,, Paris, France, 14 - 18 May 2012, pp.14
- LXXXIV. **Electronic Transport Properties Of The GaInNAs/GaAs p-type As Grown And Annealed Modulation Doped Quantum Well Structures,**
EROL A., SARCAN F., Güneş M., ARIKAN M. Ç., Puustinen J., Guina M.
13th International Conference On Transparent Optical Networks, Stocholm, Stocholm, Sweden, 26 July - 30 June 2011, pp.19
- LXXXV. **FTIR Spectroscopy of Quantum Well Infrared Photodetectors**
NUTKU F., ARIKAN M. Ç., EROL A., ERGÜN Y.
13th International Conference on Transparent Optical Networks ICTON 2011; COST Action MP0805 Annual Workshop Dilute III-V Alloy Semiconductors for Future Photonics (DILSEM-PHOTON), Sweden, 1 - 04 June 2011
- LXXXVI. **The effects of quantum well numbers and thermal annealing on optical properties of GaInNAs/GaAs quantum well structures**
Basak H., Erol A., Donmez Ö., Arıkan M. C., Saarinen M.
3rd International Symposium on Growth of III-Nitrides (ISGN), Montpellier, France, 4 - 07 July 2010, vol.8
- LXXXVII. **I-V characterization of a staircase quantum well infrared photodetector**
Nutku F., Arıkan M. C., Erol A., Ergun Y., Kendirlik E. M.
3rd International Symposium on Growth of III-Nitrides (ISGN), Montpellier, France, 4 - 07 July 2010, vol.8
- LXXXVIII. **I-V Characterization of a Staircase Quantum Well Infrared Photodetector**
NUTKU F., ARIKAN M. Ç., EROL A., ERGÜN Y.
E-MRS 2010 Spring Meeting, France, 1 - 04 June 2010, pp.14
- LXXXIX. **Çoklu Kuantum Kuyularında Enerji Seviyeleri ve Elektron Yoğunlukları**

Nutku F., Erol A., Arıkan M. Ç.

5. Nano-elektronik Taşınım Sempozyumu, İstanbul, Turkey, 7 - 11 February 2010

XC. Synthesis and investigation of optical properties of ZnS nanostructures.

Üzar Kılıç N., Arıkan Ç., Erol A.

International Conference on Nanomaterials and Nanosystems (NanoMats2009), İstanbul, Turkey, 10 - 13 August 2009, pp.23

XCI. Effects of growth conditions on morphologies of the ZnO nanostructures

Erol A., Arıkan M. C.

International Conference on Superlattices, Nano-Structures and Nano-Devices, İstanbul, Turkey, 30 July - 04 August 2006, vol.4, pp.244-245

XCII. Temperature dependence of the threshold electric field in a hot electron VCSEL

Serpengüzel A., Balkan N., Erol A., Arıkan M., Roberts J.

Conference on Ultrafast Phenomena in Semiconductors and Nanostructure Materials IX, San-Jose, Costa Rica, 24 - 27 January 2005, vol.5725, pp.194-201

XCIII. In-Plane Photovoltaic and Photoconductive Effects in GaInAs and GaInNAs double quantum well structures

Akçay N., Erol A., Arıkan Ç., Balkan N.

International Research Workshop Physics and Technology of Dilute Nitrides for Optical Communications, İstanbul, Turkey, 1 - 04 October 2002, pp.46

Other Publications

I. Temperature Dependence Of The Threshold Electric Field In A Hot Electron Vcsl

Serpengüzel A., EROL A., Balkan N., ARIKAN M. Ç.

Other, pp.5725, 2005

Supported Projects

DÖNMEZ Ö., EROL A., Yılmaz S. N., AYDIN M., Project Supported by Higher Education Institutions, Örgü Uyumlu

GaInAsBiInP Alaşımının Optoelektronik Özelliklerinin İncelenmesi, 2023 - Continues

KURUOĞLU F., GÜNEŞ S., EROL A., GÖKDEMİR CHOİ F. P., Project Supported by Higher Education Institutions, Perovskite Tabanlı Güneş Pillerinde Organosülfür Gruplarının Tuzak Ve Yük İletim Mekanizmalarına Etkisinin İncelenmesi, 2021 - Continues

GÜVER T., YELKENCİ F. K., EROL A., ALİŞ S., KAY B., SARCAN F., FİŞEK S., BOZTEPE T., CB Strateji ve Bütçe Başkanlığı (Kalkınma Bakanlığı) Projesi, Doğu Anadolu Gözlemevi Odak Düzlemi Aygıtları ve Adaptif Optik Sistemi, 2016 - Continues

EROL A., TUBITAK Project, Development of InGaAs, PZT ve LiTaO3-Based Devices for Defense Applications, 2019 - 2026
Mutlu S., Sarcan F., Erol A., Project Supported by Higher Education Institutions, Sera Gazı Emisyonları için 2B TMD tabanlı Seçici Gaz Sensörlerinin Geliştirilmesi, 2023 - 2025

Erol A., TUBITAK Project, MODÜLER YAPIDA, LİTYUM TANTALAT TABANLI, DİSPERSİF OLMAYAN KIRMIZIALTI (NDIR) GAZ ALGILAMA SİSTEMİNİN GELİŞTİRİLMESİ, 2023 - 2025

Kuruoğlu F., Erol A., Çiçek A., Project Supported by Higher Education Institutions, Piezoelectric Phononic Crystal Based Mass Detection System Modeling and Analysis by Finite Element Methods, 2023 - 2024

DÖNMEZ Ö., EROL A., SARCAN F., KURUOĞLU F., MUTLU S., KALYON G., Project Supported by Higher Education Institutions, Nano ve Optoelektronik Araştırma Laboratuvarları Optoelektronik Aygıt Üretimi ve Karakterizasyonu Araştırma Altyapısının Sürekliliği ve Geliştirilmesi, 2022 - 2024

Erol A., Sarcan F., TUBITAK Project, ULTRAVİOLE IŞINIM ALGILAMAYA YÖNELİK "SOLAR BLIND" YARI İLETKEN SENSÖR GELİŞTİRİLMESİ, 2021 - 2024

EROL A., ÇİÇEK A., OKŞAK N., KURUOĞLU F., KURUCA D. S., ÖNCÜL M. O., Project Supported by Higher Education Institutions, Bessel yüzey akustik dalgalarına dayalı yonga üstü laboratuvar sistemi tasarımı üretimi ve test edilmesi,

2019 - 2024

- EROL A., KALYON G., Project Supported by Higher Education Institutions, InGaAs Gunn Diyodu Tabanlı Işık Yayan Aygıt Üretimi ve Karakterizasyonu, 2022 - 2023
- Tıraş E., Erol A., Mutlu S., Serincan U., Arpapay B., Ardali Ş., TUBITAK Project, Sıcak Elektronik Tabanlı Optik Mantık Kapıları, 2021 - 2023
- EROL A., ÖZHAN G., ULUTAŞ D., KURUOĞLU F., SOLAKOĞLU S., AKÇAALAN ALBAY R., CEVHER E., GÜL A., BAYKAL B., GAZİOĞLU C., et al., Project Supported by Higher Education Institutions, İstanbul Üniversitesi Araştırma Laboratuvarlarının Sürekliliği ve Geliştirilmesi, 2021 - 2023
- Sarcan F., Erol A., Okcun A., TUBITAK Project, ULTRAVİYOLE IŞINIM ALGILAMAYA YÖNELİK "SOLAR BLIND" YARI İLETKEN SENSÖR GELİŞTİRİLMESİ, 2021 - 2023
- SARCAN F., ERBAŞ Ö. G., EROL A., Project Supported by Higher Education Institutions, MgNiO ve CuNiO yarıiletkenlerinin yapısal optik elektriksel ve manyetik karakterizasyonu ve fotodedektör uygulamaları, 2021 - 2023
- DÖNMEZ Ö., AYDIN M., EROL A., YILDIRIM S., Project Supported by Higher Education Institutions, Katkılı GaAsBi/GaAs epilayer yapısının transport özelliklerinin incelenmesi, 2020 - 2023
- Erol A., Mutlu S., TUBITAK Project, InGaAs light-emitting devices based on Gunn Diode , 2020 - 2023
- DÖNMEZ Ö., AYDIN M., EROL A., Project Supported by Higher Education Institutions, BİZMUT İÇEREN III-V GRUBU YARIİLETKENLERDE ELEKTRONİK TRANSPORT MEKANİZMALARININ İNCELENMESİ, 2019 - 2023
- ARISAN V., ALZBOUN M., TÜRKER ŞENER L., SARCAN F., KURUOĞLU F., EROL A., TOPCUOĞLU E. N., Project Supported by Higher Education Institutions, Bor İle Modifiye Titanyum İmplant Yüzeylerinde Biyofilm Oluşumu ve Osteoblast Aktivitesinin in vitro Analizi, 2019 - 2022
- EROL A., JUSUFOVIC S., Project Supported by Higher Education Institutions, Polimer Tabanlı Elektrokromik Filmlerin Hazırlanması ve Karakterizasyonu, 2019 - 2021
- EROL A., YEŞİLYURT C., Project Supported by Higher Education Institutions, Anizotropik yarımetal malzemelerin elektriksel, manyetik ve kuantum mekaniksel özelliklerinin araştırılması, 2019 - 2021
- EROL A., PERÇİN ÖZKORUCUKLU S., KURUOĞLU F., AKALIN E., CEVHER E., AK T., ULUTAŞ H. K., GÜL A., SIRMA EKMEKÇİ S., DÖNMEZ Ö., et al., Project Supported by Higher Education Institutions, İstanbul Üniversitesi Araştırma Laboratuvarları Sürekliliği Araştırma Desteği, 2018 - 2021
- SARCAN F., EROL A., Project Supported by Higher Education Institutions, GaInNAs tabanlı ışık yayan aygıt tasarımı ve karakterizasyonu, 2018 - 2020
- EROL A., YALÇIN Y., ÇİÇEK A., Project Supported by Higher Education Institutions, Mikroakışkan Sistemlerinde Yüzey Akustik Dalgaları ile Bessel Demeti Üretimi ve Karakterizasyonu, 2018 - 2020
- EROL A., SARCAN F., KURUOĞLU F., ÇOKDUYGULULAR E., ÇETİNKAYA Ç., DÖNMEZ Ö., NUTKU F., KARA K., AKALIN E., Project Supported by Higher Education Institutions, Characterization of temperature dependent operation of a GaInNAsbased RCEPD designed for 1.3 um, 2018 - 2018
- EROL A., Project Supported by Higher Education Institutions, İleri Litografik Yöntemler Laboratuvarı Elektronıyon Işını Litografisi ve Görüntüleme Sistemi Altyapısı Desteği, 2017 - 2018
- EROL A., KARA K., SARCAN F., DÖNMEZ Ö., NUTKU F., YILDIRIM S., MUTLU S., KURUOĞLU F., AKALIN E., Project Supported by Higher Education Institutions, GaInNAs ve GaAsBi yarıiletkenleri ve bunlara dayalı geliştirilen aygıtların karakterizasyonu, 2017 - 2018
- Arda E. Ş. N., Ekici A., İşinibilir Okyar M., Öktem Y., Günel T., Erol A., Oktayoğlu S., Akkuş B., TUBITAK Project, İstanbul Üniversitesi Ar-Ge Strateji Belgesi (Biyoteknoloji), 2016 - 2018
- ERSÖZ H. Y., SERT Z., GÜNAYDIN S., POLAT BADUR S., CİVELEK KELEŞ G., DEVRİN H., KORUL O., KÖSE S., HIZIROĞLU E., KAYIKCI S., et al., Project Supported by Higher Education Institutions, BAP ALT YAPI GELİŞTİRME VE TANITIMI, 2015 - 2018
- EROL A., SARCAN F., Project Supported by Higher Education Institutions, Rezonans kaviteli ve İç kazançlı GaInNAs-tabanlı IR fotodedektör, 2015 - 2018
- KINACI B., EROL A., DÖNMEZ Ö., AKALIN E., Project Supported by Higher Education Institutions, Yeni nesil çok eklemlili güneş hücrelerinin tasarım ve karakterizasyonu, 2015 - 2018
- EROL A., SARCAN F., ULUTAŞ D., AKALIN E., BALKAN N., Project Supported by Higher Education Institutions, Optik haberleşme için dikey kaviteli p-i-n dedektör, 2015 - 2018
- Tıraş E., Erol A., Lişesivdin S. B., Mutlu S., Ardali Ş., Project Supported by Higher Education Institutions, Geniş Yasak Enerji

Aralıklı Sıcak Elektron Lazer Ve Işın Yayıcı Yarıiletken Hetero- Yapılar, 2015 - 2018

NUTKU F., DÖNMEZ Ö., ÇETİNKAYA Ç., GUİNA M., PUUSTİNEN J., ÇOKDUYGULULAR E., EROL A., Project Supported by Higher Education Institutions, Optical Characterization of n and p-type Modulation Doped GaAsBiGaAs Quantum Well Structures, 2017 - 2017

DÖNMEZ Ö., ERUÇAR T., KARA K., EROL A., FONTAINE C., ARNOULT A., Project Supported by Higher Education Institutions, Influence of chemical process on structural and optical properties of as grown and thermal annealed GaAsBi alloys., 2017 - 2017

Akalın E., Kara Koç K., Erol A., Dönmez Ö., Project Supported by Higher Education Institutions, Yarıkaraklı örgü uyumsuz alaşımlara ısı işlem etkisinin spektroskopik yöntemlerle belirlenmesi, 2017 - 2017

EROL A., TIRAŞ E., LİŞESİVDİN S. B., MUTLU S., Project Supported by Higher Education Institutions, Evolution of HELLSH Devices Colourful story of the Hot Electron Light Emitting Semiconductor Heterostructure Devices from IR to VIS light, 2017 - 2017

EROL A., DÖNMEZ Ö., YILDIRIM S., NUTKU F., ÇOKDUYGULULAR E., Project Supported by Higher Education Institutions, III-N-V ve III-Bi-V Yarıiletken Alaşımlarda Elektronik Transport, 2016 - 2017

EROL A., KINACI B., DÖNMEZ Ö., MUHAMMETGULYEV A., Project Supported by Higher Education Institutions, III-V Grubu Yarıiletkenlere Dayalı Güneş Hücrelerinin Elektriksel ve Optik Özelliklerinin İncelenmesi, 2016 - 2017

EROL A., DÖNMEZ Ö., ERUÇAR T., KARA K., Project Supported by Higher Education Institutions, Bizmut İçeren III-V Grubu Uyumsuz Yarıiletken Alaşımların Yapısal Optik ve Elektriksel Özelliklerinin İncelenmesi, 2016 - 2017

DÖNMEZ Ö., KARA K., EROL A., AKALIN E., Project Supported by Higher Education Institutions, Yarıkaraklı örgü uyumsuz alaşımlara ısı işlem etkisinin spektroskopik yöntemlerle belirlenmesi, 2016 - 2017

EROL A., KURUOĞLU F., Project Supported by Higher Education Institutions, Nanoyapılı non-volatile bellek üretimi ve karakterizasyonu, 2015 - 2017

DÖNMEZ Ö., EROL A., YILDIRIM S., AKALIN E., SARCAN F., NUTKU F., KARA K., KINACI B., Project Supported by Higher Education Institutions, Modülasyon katkılı GaBiAs kuantum kuyulu yapıların optik ve elektrik transport özelliklerinin incelenmesi, 2015 - 2017

EROL A., SARCAN F., BALKAN N., Project Supported by Higher Education Institutions, 1.3 μm 'de çalışan rezonans kaveteli ve iç kazançlı GaInNAs-tabanlı fotodedektör, 2015 - 2017

EROL A., Project Supported by Higher Education Institutions, : III-V Grubu Alaşım Yarıiletkenlerde Gunn Olayı'na Dayalı Işımanın İncelenmesi, 2015 - 2016

EROL A., Project Supported by Higher Education Institutions, Yarıiletken IR fotodedektör karakterizasyonu, 2015 - 2016

DÖNMEZ Ö., EROL A., KURUOĞLU F., ASLAN M., Project Supported by Higher Education Institutions, Infrared fotoiletken optik anahtar, 2015 - 2016

YILDIRIM S., DÖNMEZ Ö., EROL A., YAKUT Ş., SARCAN F., ULUTAŞ D., AKALIN E., Project Supported by Higher Education Institutions, Uyumsuz Yarıiletken Alaşımların Optoelektronik Davranışlarının İncelenmesi, 2014 - 2016

EROL A., SARCAN F., DÖNMEZ Ö., Project Supported by Higher Education Institutions, GaAsBi alaşımının optik ve elektronik transport özelliklerine büyütme şartları ve Bizmut miktarının etkilerinin incelenmesi, 2013 - 2016

EROL A., Project Supported by Higher Education Institutions, Influence of nitrogen on hole effective mass and hole mobility in p-type modulation doped GaInNAs/GaAs quantum well structures, 2013 - 2016

EROL A., Project Supported by Higher Education Institutions, Örgü Uyumlu Ga_{1-x}In_xNyAs_{1-y}/GaAs Kuantum Kuyulu p-i-n Yapılı Fotodiyotlarda Fotoakım Osilasyonlarının Deneysel Olarak Araştırılması ve Nümerik Modellenmesi, 2015 - 2015

EROL A., Project Supported by Higher Education Institutions, An investigation of Bismuth-related effects on GaAsBi/GaAs epilayers, 2014 - 2014

EROL A., Project Supported by Higher Education Institutions, Humidity-sensing properties of a ZnO nanowire film as measured with a QCM, 2011 - 2014

EROL A., Project Supported by Higher Education Institutions, Seyreltik Azotlu Yarıiletkenlere Dayalı Teknolojiler, 2010 - 2014

Balkan N., Erol A., Dönmez Ö., Nutku F., Sarcan F., EU Supported Other Project, Novel Gain Materials and Devices Based On III-V-N Compounds, 2012 - 2013

Arıkan M. Ç., Erol A., TUBİTAK Project, Optical properties and transport mechanisms of n and p- type Modülasyon Katkılı Ga_{1-x}In_xNyAs_{1-y}/GaAs quantum well structures, 2011 - 2013

Arıkan M. Ç., Erol A., Yarman B. S. B., Nutku F., Üzar Kılıç N., CB Strateji ve Bütçe Başkanlığı (Kalkınma Bakanlığı) Projesi,

İleri Litografik Yöntemler Laboratuvarları, 2010 - 2013

Erol A., Sarcan F., Arıkan M. Ç., CB Strateji ve Bütçe Başkanlığı (Kalkınma Bakanlığı) Projesi, İleri Litografik Araştırmalar Laboratuvarları, 2010 - 2013

EROL A., Project Supported by Higher Education Institutions, Investigation of Photoconductive Properties of ZnO nanoparticles, 2012 - 2012

EROL A., SARCAN F., Project Supported by Higher Education Institutions, Modülasyon Katkılı GaInNAs/GaAs Kuantum Kuyusu Yapıların Optik ve Elektriksel Özelliklerinin İncelenmesi, 2012 - 2012

Arıkan M. Ç., Erol A., Ergün Y., Nutku F., TUBITAK Project, Kuantum Kuyulu Infrared Fotodetektör (QWIP) Yapılarda Elektronik Transport Olaylarının İncelenmesi, 2009 - 2012

EROL A., ARIKAN M. Ç., TUBITAK Project, Kuantum kuyulu Infrared Fotodetektörler (QWIP) Yapılarda Elektronik Transport Olaylarının İncelenmesi, 2009 - 2012

EROL A., Project Supported by Higher Education Institutions, Electronic transport properties of the GaInNAs/GaAs p-type as-grown and annealed modulation doped quantum well structures, 2011 - 2011

EROL A., Project Supported by Higher Education Institutions, Humidity sensing properties of ZnO nanoparticles synthesized by sol-gel process, 2010 - 2011

EROL A., Project Supported by Higher Education Institutions, Çinko Oksit (ZnO) Nanoyapıların Sentezlenmesi ve Sensör Özelliklerinin İncelenmesi, 2010 - 2011

EROL A., Project Supported by Higher Education Institutions, Sol-Gel yöntemi ile ZnO kuantum noktalarının sentezlenmesi ve karakterizasyonu, 2008 - 2011

EROL A., Project Supported by Higher Education Institutions, Electronic transport in In-rich GaIn_{1-x}N, 2010 - 2010

EROL A., Project Supported by Higher Education Institutions, Humidity Detection Measurement ZnO nanodots using Quartz Crystal Microbalance (QCM) Method, 2009 - 2009

EROL A., ÜZAR KILIÇ N., Project Supported by Higher Education Institutions, III-N-V grubu çoklu kuantum kuyulu yarıiletken sistemlerinin optik özelliklerinin incelenmesi, 2008 - 2009

EROL A., Project Supported by Higher Education Institutions, Dilute III-V Nitride Semiconductors and Material Systems, 2008 - 2009

EROL A., CB Strateji ve Bütçe Başkanlığı (Kalkınma Bakanlığı) Projesi, GaInNAs/GaAs Yarı İletken Sisteminden Oluşan Optik Kaynak Tasarımı ve Karakterizasyonu, 2004 - 2007

Patent

Tıraş E., Erol A., Mutlu S., SICAK ELEKTRON TABANLI YÜZEY IŞIMASI YAPAN LOJİK IŞIK YAYICI AYGIT, Patent, CHAPTER H Electricity, The Invention Registration Number: 2020 11952 , Standard Registration, 2024

Dönmez Ö., Erol A., OPTİK OLARAK ÖLÇÜM YAPAN BİR MANYETİK ALAN ÖLÇÜM CİHAZI, Patent, CHAPTER G Physics, The Invention Registration Number: 2020-GE-512411 , Standard Registration, 2022

Mutlu S., Erol A., Tıraş E., Sıcak elektron tabanlı dalgaboyu dönüştürücü ve optik yükselteç olarak çalışan yarıiletken aygıt ve bu aygıtın üretim yöntemi, Patent, CHAPTER G Physics, The Invention Recourse Number: 2021/003991 , Standard Registration, 2021

Erol A., Erol A., BODY TEMPERATURE SETTING UNIT, Patent, CHAPTER A Human Needs, The Invention Registration Number: TR 2019 09844 B , Standard Registration, 2021

Kuruoğlu F., Erol A., ORDERED NANOPARTICLES BASED NEW GENERATION NONVOLATILE MEMORY DEVICE, Patent, CHAPTER H Electricity, The Invention Recourse Number: 2019/08827 , Standard Registration, 2019

Erol A., Erol Z. E., A Laser Plaster Cutting System, Patent, CHAPTER A Human Needs, The Invention Recourse Number: 2019/16640 , Standard Registration, 2019

Sarcan F., Erol A., Highly Selective Resonant Cavity Enhanced Photodetector, Patent, CHAPTER G Physics, The Invention Registration Number: TR201505193B , Standard Registration, 2017

Activities in Scientific Journals

Turkish Journal of Physics, Committee Member, 2020 - Continues
Semiconductor Science and Technology, Committee Member, 2018 - Continues
Materials Science in Semiconductor Processing, Editor, 2013 - Continues
Semiconductor Science and Technology, Special Issue Editor, 2018 - 2018
Nanoscale Research Letters, Special Issue Editor, 2013 - 2014
Physica Status Solidi C, Special Issue Editor, 2010 - 2010
Physica Status Solidi B, Special Issue Editor, 2010 - 2010
Physica Status Solidi C, Special Issue Editor, 2006 - 2006

Memberships / Tasks in Scientific Organizations

Micro/Nanoteknolojiler ve Optoelektronik, Consultant, 2017 - Continues

Scientific Refereeing

Semiconductor Science and Technology, SCI Journal, August 2018
Canadian Journal of Physics, SCI Journal, November 2017
AIP Proceedings, Other Indexed Journal, November 2016
Materials Science in Semiconductor Processing, National Scientific Refreed Journal, April 2015
Sensors & Actuators: B. Chemical, SCI Journal, April 2013
Materials Science in Semiconductor Processing, SCI Journal, April 2013
Sensors Letters, SCI Journal, April 2013
Physica status solidi C, Other journals, August 2012
Nanoscale Research Letters, SCI Journal, August 2012
Physica status solidi C, Other journals, July 2012
Sensors and actuators B, SCI Journal, March 2012
Sensors and actuators B, SCI Journal, September 2011
Physica status solidi C, Other journals, September 2011
APPLIED PHYSICS LETTERS, SCI Journal, June 2011
APPLIED PHYSICS LETTERS, SCI Journal, June 2011
Physica status solidi C, Other journals, August 2010
Sensors and actuators B, SCI Journal, June 2010
Sensors and actuators B, SCI Journal, May 2010
Physica status solidi C, Other journals, January 2010
Sensors and actuators B, SCI Journal, August 2009

Scientific Consultations

TÜBİTAK, Project Consultancy, Istanbul University, Faculty Of Science, Department Of Physics, Turkey, 2014 - 2014
TÜBİTAK, Project Consultancy, Istanbul University, Faculty Of Science, Department Of Physics, Turkey, 2010 - 2013
TÜBİTAK, Project Consultancy, Istanbul University, Faculty Of Science, Department Of Physics, Turkey, 2010 - 2012
TÜBİTAK, Project Consultancy, Istanbul University, Faculty Of Science, Department Of Physics, Turkey, 2009 - 2010
TÜBİTAK, Project Consultancy, Istanbul University, Faculty Of Science, Department Of Physics, Turkey, 2007 - 2010

Metrics

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H-Index (Scopus): 15

Congress and Symposium Activities

1st International Eurasian Conference on Science, Engineering and Technology, Attendee, Ankara, Turkey, 2018

ICCMMS-2017, Attendee, Adana, Turkey, 2017

The Physics of Optoelectronics Devices and Materials, Attendee, London, United Kingdom, 2017

TPS 32.International Physics Congress, Attendee, Muğla, Turkey, 2016

TPS 32.International Physics Congress1, Attendee, İstanbul, Turkey, 2015

5th International Workshop on Bismuth-Containing Semiconductors, July 21-23, 2014, Cork, IRELAND, Attendee, CORK, Ireland, 2014

19. Yoğun Madde Fiziği Toplantısı, Attendee, ANKARA, Turkey, 2013

TPS 30th International Physics Congress, Attendee, İstanbul, Turkey, 2013

Novel Gain and Materials Based on III-N-V/Bi compounds, Attendee, İstanbul, Turkey, 2013

EURO MBE 2013, Attendee, Levi, Finland, 2013

TPS 29. International Physics Congress, Attendee, Bodrum, Turkey, 2012

ICSNN 2012, Attendee, Dresden, Germany, 2012

ICTON 2011, Attendee, Sweden, 2011

European Materials Research Society (E-MRS) 2010 Spring Meeting, Attendee, Strasbourg, France, 2010

Nano-TR V, Attendee, Eskişehir, Turkey, 2010

Güneş Gözelerinin Fiziği ve Teknolojileri, Attendee, Sivas, Turkey, 2010

Nanotaşınım/Seyreltik Azot içeren yapılarda elektronik taşınımın incelenmesi, Attendee, İstanbul, Turkey, 2010

14th International Conference on II-VI Compounds, Attendee, İstanbul, Turkey, 2009

NanoMats, Attendee, İstanbul, Turkey, 2009

COST 288 Workshop, Attendee, Metz, France, 2007

ICSNN 2006, Attendee, Toulouse, France, 2006

Nano-Ölçekli Optoelektronik Malzemeler Ulusal Çalıştayı, Attendee, Antalya, Turkey, 2006

TPS 23. International Physics Congress, Attendee, Muğla, Turkey, 2005

International Research Workshop Physics and Technology of Dilute Nitrides for Optical Communications, Attendee, İstanbul, Turkey, 2002

ICSNN 2002, Attendee, Toulouse, France, 2002

Scholarships

British Chevening Scholarship, British Council, 2001 - 2002

Awards

EROL A., TÜBA Desteklenmeye değer eser ödülü: Yarıiletkenler ve Optoelektronik Uygulamaları, TÜBA, June 2014

Üzar Kılıç N., Arıkan Ç., Erol A., Okur S., Synthesis and Humidity Sensing Analysis of ZnS Nanowires, European Materials Research Society (E-Mrs) Spring Meeting 2010, June 2010

EROL A., Nazım Terzioğlu Ödülü, İstanbul Üniversitesi, May 2004

Non Academic Experience

TUBITAK, TÜBİTAK, TÜBİTAK