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Personal Information

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International Researcher IDs

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Publons / Web Of Science ResearcherID: K-3684-2019

ScopusID: 56481497200

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Education Information

Doctorate, University of Essex, Fizik, Fizik/Yarıiletken Fiziği, United Kingdom 1994 - 1998

Postgraduate, Anadolu University, Institute Of Science, Atom Molekül Fiziği, Turkey 1990 - 1993

Undergraduate, Anadolu University, Faculty Of Science, Fizik, Turkey 1986 - 1990

Foreign Languages

English, B2 Upper Intermediate

Dissertations

Doctorate, GaAs ve Ga_{1-x}Al_xAs Yarıiletken Katmanlarda Gunn Domainlerinden Işık Yayılımı, University of Essex, Fizik, Fizik/Optoelektronik Materyaller Ve Aygıt Teknolojisi, 2008

Postgraduate, N,N Dietilasetamid Tetrasiyanonik Komplekslerinin IR Spektroskopik Bölgesinde İncelenmesi, Anadolu University, Fen Bilimleri Enstitüsü, Fizik/Atom Molekül Fiziği, 1993

Research Areas

Physics, Intensive Article 2: Electronic Structure, Electric, Magnetic and Optical Properties, Electrical properties of electronic structures, interfaces, thin films and low-dimensional structures, Optical Properties, Spectroscopy of Matter, Electronic transport in condensed matter, Natural Sciences

Academic Titles / Tasks

Professor, Akdeniz University, Faculty of Education, Matematik Ve Fen Bilimleri Eğitimi Bölümü, 2015 - Continues

Associate Professor, Akdeniz University, Faculty of Education, Ortaöğretim Fen Ve Matematik Alanlar Eğitimi, 2010 - 2015

Assistant Professor, Akdeniz University, Faculty of Education, Ortaöğretim Fen Ve Matematik Alanlar Eğitimi, 2007 - 2010

Assistant Professor, Sivas Cumhuriyet University, Mühendislik Fakültesi, Elektrik- Elektronik Mühendisliği Bölümü, 1999 - 2007

Academic and Administrative Experience

Akdeniz University, Faculty of Education, Ortaöğretim Fen Ve Matematik Alanlar Eğitimi, 2007 - Continues

Akdeniz University, Faculty of Education, Ortaöğretim Fen Ve Mat. Alan. Eğit. Böl., 2010 - 2012

Sivas Cumhuriyet University, Mühendislik Fakültesi, Elektrik Elektronik Mühendisliği, 2000 - 2007

Courses

Genel Fizik Lab-II, Undergraduate, 2014 - 2015, 2013 - 2014

Fizik-II, Undergraduate, 2014 - 2015, 2013 - 2014, 2011 - 2012

Genel Fizik-II, Undergraduate, 2014 - 2015, 2013 - 2014

Genel Fizik-I, Undergraduate, 2014 - 2015, 2013 - 2014

Genel Fizik Lab-I, Undergraduate, 2014 - 2015, 2013 - 2014

Advising Theses

HOŞTUT M., Kuantum Kuyulu Kızılötesi Dedektörler, Postgraduate, D.Kartal(Student), 2006

HOŞTUT M., PIC Mikrodenetleyicilerinin Bilgisayar Arayüzü İle Kontrolü Ve Veri Tabanı Uygulamaları, Postgraduate, K.Altun(Student), 2006

HOŞTUT M., Üçüncü Atmosferik Pencerede (8-12 μ m)Emisyon Yapan LED, Postgraduate, S.Umut(Student), 2004

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Design and characterization of type-II superlattice-based InAs/AlSb/GaSb detector structure**
Kızılkaya K., Kemal Öztürk M., Hoştut M., Ergün Y., ÖZÇELİK S.
Journal of Crystal Growth, vol.633, 2024 (SCI-Expanded)
- II. **Voltage tunable terahertz QWIP containing asymmetric step-like coupled double quantum wells**
Almassri M., HOŞTUT M., Turkoglu A., Ergun Y.
OPTICAL AND QUANTUM ELECTRONICS, vol.54, no.2, 2022 (SCI-Expanded)
- III. **Quantum efficiency contributions for type-II InAs/GaSb SL photodetectors**
Hostut M., Ergun Y.
PHYSICA E-LOW-DIMENSIONAL SYSTEMS & NANOSTRUCTURES, vol.130, 2021 (SCI-Expanded)
- IV. **Interband optical absorption obtained by pseudopotential method for type-II InAs/GaSb SL photodetectors**
Akel K., HOŞTUT M., AKIN T., Ergun Y.
JOURNAL OF PHYSICS D-APPLIED PHYSICS, vol.54, no.19, 2021 (SCI-Expanded)
- V. **The detailed analysis of wavefunction overlaps for InAs/AlSb/GaSb based N-structure type-II SL pin photodetectors**
HOŞTUT M., TANSEL T., Kilic A., AKIN T., Ergun Y.
PHYSICA SCRIPTA, vol.94, no.7, 2019 (SCI-Expanded)
- VI. **The investigation of quantum efficiency constituents of InAs/AlSb/GaSb based N structure type-II SL photodetectors with InAlAs interface**
Kilic A., TANSEL T., HOŞTUT M., Elagoz S., Ergun Y.
SEMICONDUCTOR SCIENCE AND TECHNOLOGY, vol.33, no.9, 2018 (SCI-Expanded)
- VII. **Electrical performance of InAs/AlSb/GaSb superlattice photodetectors**
TANSEL T., HOŞTUT M., Elagoz S., Kilic A., Ergun Y., Aydinli A.
SUPERLATTICES AND MICROSTRUCTURES, vol.91, pp.1-7, 2016 (SCI-Expanded)
- VIII. **Electronic and optical properties of 4.2 μ mⁿ structured superlattice MWIR photodetectors**

Salihoglu O., HOŞTUT M., TANSEL T., Kutluer K., Kilic A., Alyoruk M., Sevik C., TURAN R., Ergun Y., Aydinli A.
INFRARED PHYSICS & TECHNOLOGY, vol.59, pp.36-40, 2013 (SCI-Expanded)

- IX. **Dark current and optical properties in asymmetric GaAs/AlGaAs staircase-like multi quantum well structure**
ALTIN E., HOŞTUT M., Ergun Y.
INFRARED PHYSICS & TECHNOLOGY, vol.58, pp.74-79, 2013 (SCI-Expanded)
- X. **Theoretical investigation of InAs/GaSb type-II pin superlattice infrared detector in the mid wavelength infrared range**
Kaya U., HOŞTUT M., Kilic A., ŞAKİROĞLU S., SÖKMEN İ., Ergun Y., Aydinli A.
JOURNAL OF APPLIED PHYSICS, vol.113, no.8, 2013 (SCI-Expanded)
- XI. **Barrier lowering effect and dark current characteristics in asymmetric GaAs/AlGaAs multi quantum well structure**
ALTIN E., HOŞTUT M., Ergun Y.
APPLIED PHYSICS A-MATERIALS SCIENCE & PROCESSING, vol.105, no.4, pp.833-839, 2011 (SCI-Expanded)
- XII. **Voltage Tunable Dual-Band Quantum-Well Infrared Photodetector for Third-Generation Thermal Imaging**
HOŞTUT M., Kilic A., ŞAKİROĞLU S., Ergun Y., SÖKMEN İ.
IEEE PHOTONICS TECHNOLOGY LETTERS, vol.23, no.19, pp.1370-1372, 2011 (SCI-Expanded)
- XIII. **Three-color broadband asymmetric quantum well infrared photodetectors in long wavelength infrared range (LWIR)**
HOŞTUT M., Alyoruk M., Ergun Y., SÖKMEN İ.
APPLIED PHYSICS A-MATERIALS SCIENCE & PROCESSING, vol.98, no.2, pp.269-273, 2010 (SCI-Expanded)
- XIV. **Long-wavelength broad band infrared photodetector using four asymmetric quantum wells**
Hostut M.
PHYSICA E-LOW-DIMENSIONAL SYSTEMS & NANOSTRUCTURES, vol.39, no.1, pp.50-52, 2007 (SCI-Expanded)
- XV. **Tunable long-wavelength broad band asymmetric quantum well infrared photodetector**
Hostut M., Kartal D., Ergun Y., Sokmen I.
SEMICONDUCTOR SCIENCE AND TECHNOLOGY, vol.22, no.4, pp.422-426, 2007 (SCI-Expanded)
- XVI. **A new approach to quantum well infrared photodetectors: Staircase-like quantum well and barriers**
Eker S., Hostut M., Ergun Y., Sokmen I.
INFRARED PHYSICS & TECHNOLOGY, vol.48, no.2, pp.101-108, 2006 (SCI-Expanded)
- XVII. **Broadband staircase quantum well infrared photodetector with low dark current**
Ergun Y., Hostut M., Eker S. U., Sokmen I.
INFRARED PHYSICS & TECHNOLOGY, vol.48, no.2, pp.109-114, 2006 (SCI-Expanded)
- XVIII. **Intersubband electron transition across a staircase potential containing quantum wells: light emission**
Ergun Y., Hostut M., Eker S., Sokmen İ.
SUPERLATTICES AND MICROSTRUCTURES, vol.37, no.3, pp.163-170, 2005 (SCI-Expanded)
- XIX. **Transient studies of light emission from travelling space charge domains in GaAs and Ga_{1-x}Al_xAs**
Balkan N., Hostut M.
PHYSICA B-CONDENSED MATTER, vol.272, no.1-4, pp.291-294, 1999 (SCI-Expanded)
- XX. **Deep impurity levels in Ge_{1-x}Si_x alloys**
Azhdarov G., Kyazimzade R., Hostut M.
SOLID STATE COMMUNICATIONS, vol.111, no.12, pp.675-679, 1999 (SCI-Expanded)

Articles Published in Other Journals

- I. **Light emission from Gunn domains**
HOŞTUT M., Balkan N.
TURKISH JOURNAL OF PHYSICS, vol.23, pp.799-803, 1999 (Scopus)

Books & Book Chapters

- I. **Broadband asymmetric quantum-well infrared photodetector in long-wavelength infrared range (LWIR)**
HOŞTUT M.
in: The Joint 32nd International Conference On Infrared And Millimetre Waves And The 15th International Conference On Terahertz Electronics, -, Editor, Ieee, New York, pp.130-132, 2007
- II. **Hot Electron Light Emission From Gunn Domains in Longitudinally Biased GaAs p-n Junctions and in n-GaAs Epilayers**
Balkan N., HOŞTUT M., Kort T. d., Straw A.
in: Hot Carriers in Semiconductors, Karl Hess, Jean-Pierre Leburton and Umberto Ravaioli, Editor, Plenum Press, New York, pp.599-602, 1996

Refereed Congress / Symposium Publications in Proceedings

- I. **Wave function characteristics obtained by atomistic approach for superlattice photo detectors in the SWIR**
AKEL K., HOŞTUT M., TANSEL T., KILIC A., ERGUN Y.
BIT'xxs 8th Annual Congress of Nano Science and Technology-2018, Potsdam, Germany, 24 - 26 October 2018
- II. **Band Profile Investigation for InAs/GaSb and InAs/AlSb/GaSb N-structure Photodetectors using SL Empirical Pseudopotential Method**
ERGUN Y., AKEL K., TANSEL T., HOŞTUT M.
9TH INTERNATIONAL CONFERENCE ON NANOMATERIALS - RESEARCH APPLICATION, 18 - 20 October 2017
- III. **Band profile investigation for InAs/AlSb/GaSb N-Structure**
ERGUN Y., TANSEL T., HOŞTUT M., AKEL k.
Nanocon 2017 Brno Çek republic, 18 - 21 October 2017
- IV. **TRANSPORT MECHANISMS IN LWIR InAs /Al Ga Sb/GaSb BASED DETECTORS**
KILIC A., HOŞTUT M., ERGUN Y.
TURKISH PHYSICAL SOCIETY 33RD INTERNATIONAL PHYSICS CONGRESS, 6 - 10 September 2017
- V. **Pseudo Potential Calculation of N Structure Type II Superlattice**
ERGUN Y., AKEL K., HOŞTUT M., SALIHOGLU Ö., KILIC A., TANSEL T.
8th International Conference on Nanomaterials - Research & Application, 19 - 21 October 2016
- VI. **THE GROWTH OF InGaAs InAlAs SUPERLATTICES AND CHARACTERIZATION FOR PRODUCT QUANTUM CASCADE LASER**
ERGUN Y., HOŞTUT M., ELAĞÖZ S., KILIC A.
VIth National Crystallographic Symposium NCS2016, 5 - 07 October 2016
- VII. **QUANTUM CASCADE LASER MODELLING VIA NEXT NANO MSB**
KILIC A., ERGUN Y., AKEL K., HOŞTUT M.
VI th National Crystallographic Symposium NCS2016, 5 - 07 October 2016
- VIII. **Gibbs Free Energy Assisted Passivation Layers**
Salihoglu O., TANSEL T., HOŞTUT M., Ergun Y., Aydinli A.
42 Conference on Infrared Technology and Applications XLII, Massachusetts, United States Of America, 18 - 21 April 2016, vol.9819
- IX. **ELECTRICAL PERFORMANCE OF N-STRUCTURE T2SL PHOTODETECTORS**
HOŞTUT M., Tansel T., Elagöz S., Kilic A., Ergun Y., Aydinli A.
AITA 2015 - Advanced Infrared Technology and Applications, Pisa, Italy, 29 September - 02 October 2015, pp.1-3
- X. **Mid Wave Type II InAs GaSb superlattice photodetectors**
SALIHOGLU Ö., MUTİ A., KILIC A., HOŞTUT M., TANSEL T., ERGUN Y., TURAN R., AYDINLI A.
11th Nanoscience and Nanotechnology Conference (NanoTR-11), Ankara, Turkey, 22 - 25 June 2015
- XI. **Electrical Performance of InAs/AlSb/GaSb Superlattice Photodetector**

HOŞTUT M., Tansel T., Ergun Y., Kilic A., Aydinli A.

Microelectronics Technology, Circuits, and Systems for Space Applications Workshop, İstanbul, Turkey, 15 - 17 June 2015, pp.1

- XII. **Wave function overlap comparison between symmetric InAs/GaSb and asymmetric InAs/AlSb/GaSb type II superlattice photodetectors**
Ergun Y., HOŞTUT M., Kilic A., Tansel T., Aydinli A., Elagöz S.
Microelectronics Technology, Circuits, and Systems for Space Applications Workshop, İstanbul, Turkey, 15 - 17 June 2015, pp.1
- XIII. **N Structure Superlattice MWIR Photodetectors**
Salihoglu O., Muti A., Kutluer K., Tansel T., HOŞTUT M., Ergun Y., Turan R., Aydinli A.
Microelectronics Technology, Circuits, and Systems for Space Applications Workshop, İstanbul, Turkey, 15 - 17 June 2015, pp.1
- XIV. **ELECTRICAL AND OPTICAL PERFORMANCE OF INAS / ALSB / GASB SUPERLATTICE PHOTODETECTOR**
HOŞTUT M., TANSEL T., Ergun Y., Kilic A., Aydinli A.
7th International Conference on Nanomaterials - Research and Application, Brno, Czech Republic, 14 - 16 October 2015, pp.255-259
- XV. **High quantum efficiency Type-II superlattice N-structure photodetectors with thin intrinsic layers**
HOŞTUT M., Aydinli A., Kilic A., Turan R., Tansel T., Ergun Y.
INFRARED TECHNOLOGY AND APPLICATIONS XXXIX, Baltimore, United States Of America, 29 April 2013 - 03 May 2014, vol.8704, no.870414
- XVI. **Three-color broadband asymmetric quantum well infrared photodetector in long wavelength infrared range (LWIR)**
HOŞTUT M., Sokmen I., Alyoruk M., Ergun Y.
10th International Conference on Intersubband Transitions in Quantum Wells ITQW-2009, Montreal, Canada, 6 - 11 September 2009, pp.10
- XVII. **Broadband staircase quantum well infrared photodetector: working in long wavelength infrared range (LWIR)**
Hostut M., KARTAL D., Ergun Y., SÖKMEN İ.
International Conference on Superlattices, Nano-Structures and Nano-Devices, İstanbul, Turkey, 30 July - 04 August 2006, vol.4, pp.607-608
- XVIII. **N,N Dietilasetamid Tetrasiyanonikel Komplekslerinin IR Spektroskopik Bölgesinde İncelenmesi**
Şenyel M., HOŞTUT M., Şapçı G.
TFD 14. Ulusal Fizik Kongresi, Lefkoşa, Cyprus (Kkct), 25 - 27 October 1999, pp.53
- XIX. **Spatio-Temporal Dynamics of Light Emission From Gunn Domains**
HOŞTUT M., Balkan N.
Condensed Matter and Materials Physics Conference 1997, Exeter, United Kingdom, 17 - 19 December 1997, pp.121-122
- XX. **SpatioTemporal Dynamics of Light Emission From Gunn Domains**
HOŞTUT M., Balkan N.
Condensed Matter and Materials Physics Conference 1996, York, United Kingdom, 17 - 19 December 1996, pp.130
- XXI. **Light Emitting From Gunn Domains in GaAs: Spatio-Temporal Dynamics**
HOŞTUT M., Balkan N.
Condensed Matter and Material Physics Conference, Liverpool, United Kingdom, 19 - 21 December 1995, pp.121-122

Supported Projects

Hoştut M., Akın T., Ergün Y., Özer S., TUBITAK Project, 1-3 um Dalga Boylarında GaSb/AlSb/InAs T2SL nbn Dedektör Geliştirilmesi, 2022 - 2025

HOŞTUT M., Project Supported by Higher Education Institutions, Kızılötesi Kamera Geliştirilmesi, 2023 - 2024

Hoştut M., Akın T., Ergün Y., Özer S., TUBITAK Project, Swir (1-3 μ M) Bandında Çalışacak In(Ga)As/Al(Ga)Sb/Ga(As)Sb Tip-II Süperörgü Dedektör Geliştirilmesi, 2021 - 2024

Hoştut M., Özer S., Ergün Y., TUBITAK Project, 3-5 μ M Dalgaboylarında Çalışan Gasb/Alsb/Inas T2sl Çift Renkli Dedektör Teknolojisinin Geliştirilmesi, 2021 - 2023

Hoştut M., Ergün Y., Özer S., TUBITAK Project, 3-5 μ M Dalgaboylarında Çalışan Gasb/Alsb/Inas T2sl Bariyot Dedektörün Yapay Potansiyel Hesaplamaları, Mikrofabrikasyonu İle Karakterizasyonu, 2019 - 2021

HOŞTUT M., Project Supported by Higher Education Institutions, InAs/AlSb/GaSb based type-II SL pin detector with p on n and n on p configurations, 2018 - 2021

HOŞTUT M., Project Supported by Higher Education Institutions, InAsGaSb TipII Süperörgü tabanlı kızılötesi dedektörlerde iletim mekanizmaları, 2015 - 2018

HOŞTUT M., TUBITAK Project, Çok Renkli ve Geniş Bantlı GaAs/GaAlAs Kızılötesi Algılayıcılar, 2007 - 2010

Patent

HOŞTUT M., Inas/alsb/gasb based type- ii sl pin detector with p on n and n on p configurations, Patent, CHAPTER G Physics, 2015

Metrics

Publication: 44
Citation (WoS): 106
Citation (Scopus): 147
H-Index (WoS): 7
H-Index (Scopus): 8