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International Researcher IDs

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ScopusID: 24801954600

Yoksis Researcher ID: 27751

Education Information

Doctorate, Bursa Uludağ University, FEN BİLİMLERİ ENSTİTÜSÜ, Fizik (Dr), Turkey 2000 - 2005

Postgraduate, Bursa Uludağ University, FEN BİLİMLERİ ENSTİTÜSÜ, Fizik (YI) (Tezli), Turkey 1998 - 2000

Undergraduate, Bursa Uludağ University, FEN-EDEBİYAT FAKÜLTESİ, Fizik Bölümü, Turkey 1993 - 1997

Foreign Languages

English, C1 Advanced

Dissertations

Doctorate, Otomotiv endüstrisinde kullanılan çift fazlı çeliklerin fiziksel özelliklerinin araştırılması, Bursa Uludağ University, FEN-EDEBİYAT FAKÜLTESİ, FİZİK, 2005

Postgraduate, Girdap akımları tekniğinin fiziksel prensipleri ve sanayide uygulamaları, Bursa Uludağ University, 2000

Research Areas

Physics, General Physics, Intensive Article 2: Electronic Structure, Electric, Magnetic and Optical Properties

Academic Titles / Tasks

Professor, Bursa Uludağ University, FEN-EDEBİYAT FAKÜLTESİ, FİZİK, 2018 - Continues

Associate Professor, Bursa Uludağ University, FEN-EDEBİYAT FAKÜLTESİ, FİZİK, 2013 - 2018

Assistant Professor, Bursa Uludağ University, FEN-EDEBİYAT FAKÜLTESİ, FİZİK, 2009 - 2013

Lecturer PhD, Bursa Uludağ University, FEN-EDEBİYAT FAKÜLTESİ, FİZİK, 2006 - 2009

Research Assistant, Bursa Uludağ University, FEN-EDEBİYAT FAKÜLTESİ, FİZİK, 1998 - 2006

Academic and Administrative Experience

Head of Department, Bursa Uludağ University, FEN-EDEBİYAT FAKÜLTESİ, FİZİK, 2012 - Continues

Deputy Head of Department, Bursa Uludağ University, FEN-EDEBİYAT FAKÜLTESİ, FİZİK, 2011 - 2015

Courses

Elektronİğe Giriş, Undergraduate, 2023 - 2024

TEMEL FİZİK II, Undergraduate, 2021 - 2022

TEMEL FİZİK I, Undergraduate, 2021 - 2022

NanoPhotonic, Doctorate, 2020 - 2021

Physics of Thin Film, Postgraduate, 2019 - 2020

Genel Fiziğe Giriş, Undergraduate, 2020 - 2021

İleri Nanoelektronik, Postgraduate, 2020 - 2021

Dalgalar, Undergraduate, 2019 - 2020

Organic Electronic, Doctorate, 2019 - 2020

Akışkanlar Mekaniği, Undergraduate, 2020 - 2021

Fizikte Kalite Kontrol Yöntemler, Undergraduate, 2019 - 2020

Advising Theses

Akay S. K., KALKOJENİT TEMELLİ NANOKOMPOZİT İNCE FİLMLEİN ÜRETİLMESİ VE OPTOELEKTRONİK CİHAZ UYGULAMASI, Doctorate, H.KAAN(Student), 2022

Akay S. K., CdS Üzerine MgF₂ Temelli Yansımaya Önleyici İnce Film Kaplamaların Üretilmesi ve Karakterizasyonu, Postgraduate, A.ÖZTATLI(Student), 2022

Akay S. K., ZnSe/CuS İnce Film Heteroeklem Yapısının Üretilmesi ve Karakterizasyonu, Postgraduate, K.BOLAT(Student), 2021

Akay S. K., Investigation of the structural, electrical and optical properties of ZnO/Si heterojunction diodes, Postgraduate, S.SARSICI(Student), 2018

Akay S. K., The investigation of structural, electrical and optical properties of the zns/si heterojunction diodes, Postgraduate, H.KAAN(Student), 2017

Akay S. K., Investigation of magnetic properties of polymer thin films, Postgraduate, Ş.GÜNEŞ(Student), 2014

Jury Memberships

Appointment to Academic Staff - Associate Professorship, Appointment to Academic Staff - Associate Professorship, Bursa Uludağ Üniversitesi, January, 2019

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Narrow-band n-GaN/n-Si isotype heterojunction photodiode: A simplified approach for photodiode development**
Olkun A., Kaplan H. K., Akay S. K., Ahmetoğlu M., Pat S., Erdogan N.
SENSORS AND ACTUATORS A-PHYSICAL, vol.374, 2024 (SCI-Expanded)
- II. **Fabrication of Al/n-GaN/p-Si/Al diodes by thermal evaporation and evaluation of effect of gamma irradiation on device properties**
Olkun A., Kaplan H. K., Sarsıcı S., Akay S. K., Erdoğan N.
MATERIALS LETTERS, vol.376, no.137276, pp.1-4, 2024 (SCI-Expanded)
- III. **Ag decorated V2O5 electrodes as a promising option for electrochromic, photovoltaic, and energy-saving applications**

Aslan Çarpan M., Şentürk O., Tokgöz S. R., Sarsıcı S., Akay S. K., Peksöz A.

CERAMICS INTERNATIONAL, vol.50, no.18, pp.33111-33122, 2024 (SCI-Expanded)

- IV. **Transparent and conducting p-type (CuS)_x:(ZnS)_{1-x} thin films produced by thermal evaporation: An efficient broadband Si heterojunction photodiode**
Kaplan H. K., Akay S. K.
APPLIED SURFACE SCIENCE, no.652, pp.1-13, 2024 (SCI-Expanded)
- V. **A novel self-powered filterless narrow-band near-infrared photodiode of Cu₂S/Si p(+)-p isotype heterojunction device with very low visible light noise**
Kaplan H. K., Akay S. K., Ahmetoğlu M.
APPLIED SURFACE SCIENCE, vol.601, 2022 (SCI-Expanded)
- VI. **Production of AgCu:NiO/Ni foam electrode with high charge accumulation and long cycling stability**
Peksöz A., Mohammadigharehbagh R., Erturk K., Akay S. K., Sarsici S.
JOURNAL OF MATERIALS SCIENCE-MATERIALS IN ELECTRONICS, vol.33, no.26, pp.20756-20768, 2022 (SCI-Expanded)
- VII. **Si-based photodiode and material characterization of TiO₂ thin film**
Kaplan H. K., Olkun A., AKAY S. K., PAT S.
OPTICAL AND QUANTUM ELECTRONICS, vol.53, no.5, 2021 (SCI-Expanded)
- VIII. **Investigation of the structural, magnetic, and cooling performance of AlFe thin film and AlFeGd nanometric giant magneto caloric thin films**
Pat S., Bayer Ö., Akay S. K., Mohammadigharehbagh R., Kaya M.
JOURNAL OF MATERIALS SCIENCE: MATERIALS IN ELECTRONICS, no.32, pp.5635-5644, 2021 (SCI-Expanded)
- IX. **p-Type transparent Cu₂S thin film grown by Thermionic Vacuum Arc for optoelectronic applications**
Kaplan H. K., Akay S. K., Pat S., Henini M.
MATERIALS SCIENCE AND ENGINEERING B-ADVANCED FUNCTIONAL SOLID-STATE MATERIALS, vol.263, 2021 (SCI-Expanded)
- X. **Determination of electrical parameters of ZnO/Si heterojunction device fabricated by RF magnetron sputtering**
Akay S. K., Sarsici S., Kaplan H. K.
OPTICAL AND QUANTUM ELECTRONICS, vol.50, no.10, 2018 (SCI-Expanded)
- XI. **Photoelectrical properties of fabricated ZnS/Si heterojunction device using thermionic vacuum arc method**
Kaplan H. K., Akay S. K., Ahmetoglu M.
SUPERLATTICES AND MICROSTRUCTURES, vol.120, pp.402-409, 2018 (SCI-Expanded)
- XII. **Magnetic Responses of Divinylbenzene-Fe₃O₄ Composite Film Deposited by Free Radical Polymerization Method**
AKAY S. K., PEKSÖZ A., KARA A.
JOURNAL OF SUPERCONDUCTIVITY AND NOVEL MAGNETISM, vol.31, no.3, pp.849-854, 2018 (SCI-Expanded)
- XIII. **The characteristics of ZnS/Si heterojunction diode fabricated by thermionic vacuum arc**
Kaplan H. K., Sarsici S., Akay S. K., Ahmetoglu M.
JOURNAL OF ALLOYS AND COMPOUNDS, vol.724, pp.543-548, 2017 (SCI-Expanded)
- XIV. **Development of a Polymer Based Syntactic Foam for High Temperature Applications**
Yazici M., Fahr P., Shukla A., Gunes S., Akay S. K.
ACTA PHYSICA POLONICA A, vol.125, no.2, pp.526-528, 2014 (SCI-Expanded)
- XV. **Magnetic Properties of Poly (Divinylbenzene, Ethylene Glycol Dimethacrylate and Vinyl Alcohol) Containing Barium Ferrite Nanoparticles**
Gunes S., Akay S. K., Kara A.
ACTA PHYSICA POLONICA A, vol.125, no.2, pp.538-540, 2014 (SCI-Expanded)
- XVI. **An Investigation on Surface and Electrical Properties of Electrical Discharge Machined AISI D2 Tool Steel**
Durmus A., Bayram A., Gunes S., Akay S. K.
ACTA PHYSICA POLONICA A, vol.125, no.2, pp.515-517, 2014 (SCI-Expanded)

- XVII. **Analytical information on the asphaltenes from a few standard characterization techniques**
Peksoz A., Akay S. K., Kaya Y., Ovalioglu H., Kaynak G., Yalciner A.
Energy Sources, Part A: Recovery, Utilization and Environmental Effects, vol.33, no.15, pp.1474-1481, 2011 (SCI-Expanded)
- XVIII. **PRELIMINARY SUBMICROSCOPY OF A VERTEBRAL BONE FRAGMENT FROM A BITINIAN TOMB OF 2ND CENTURY BC IN BURSA, WESTERN TURKEY**
Boyras D., Baskaya H. S., Akşit İ., Arocena J., Polat S., Dingil M., Şahin M., Şahin M., Kaynak G., Akay S. K., et al.
TUBA-AR-TURKISH ACADEMY OF SCIENCES JOURNAL OF ARCHAEOLOGY, vol.14, pp.151-158, 2011 (AHCI)
- XIX. **Determination of the parameters for the back-to-back switched Schottky barrier structures**
Ahmetoglu M., Akay S. K.
CURRENT APPLIED PHYSICS, vol.10, no.2, pp.652-654, 2010 (SCI-Expanded)
- XX. **Giant Magneto-Impedance Effect in Thin Zinc Oxide Coated on Co-Based (2705 X) Amorphous Ribbons**
Taysioglu A. A., Kaya Y., Peksoz A., Akay S. K., Derebaşı N., Irez G., Kaynak G.
IEEE TRANSACTIONS ON MAGNETICS, vol.46, no.2, pp.405-407, 2010 (SCI-Expanded)
- XXI. **Tensile properties of friction stir welded joints of 2024 aluminum alloys in different heat-treated-state**
Aydın H., Bayram A., Uğuz A., Akay S. K.
MATERIALS & DESIGN, vol.30, no.6, pp.2211-2221, 2009 (SCI-Expanded)
- XXII. **Electrical, structural and morphological properties of Ni/n-Si contacts**
Ozer M., Akay S. K., Peksoz A., Erturk K., Kaynak G.
OPTOELECTRONICS AND ADVANCED MATERIALS-RAPID COMMUNICATIONS, vol.3, no.5, pp.506-508, 2009 (SCI-Expanded)
- XXIII. **Fatigue life behaviour of the dual-phase low carbon steel sheets**
Akay S. K., Yazici M., Bayram A., Avinc A.
JOURNAL OF MATERIALS PROCESSING TECHNOLOGY, vol.209, no.7, pp.3358-3365, 2009 (SCI-Expanded)
- XXIV. **THE EFFECT OF HEAT TREATMENTS ON PHYSICAL PROPERTIES OF A LOW CARBON STEEL**
Akay S. K., Yazıcı M., Avinc A.
PROCEEDINGS OF THE ROMANIAN ACADEMY SERIES A-MATHEMATICS PHYSICS TECHNICAL SCIENCES INFORMATION SCIENCE, vol.10, no.1, pp.27-31, 2009 (SCI-Expanded)
- XXV. **Electron-hole interaction in spherical quantum dots of nanoheterostructures**
Ahmetoglu (Afrailov) M., Akay S. K., Boymatov P., Inoyatov S., Ahmedov O., Rahimov N., Pulatov A.
Optoelectronics and Advanced Materials, Rapid Communications, vol.3, no.3, pp.163-165, 2009 (SCI-Expanded)

Articles Published in Other Journals

- I. **The Physical Properties of CZTS Absorber Layer for Solar Cell Application**
Sarsıcı S., Kaplan H. K., Olkun A., Mohammadigarehbagh R., Akay S. K.
INTERNATIONAL JOURNAL OF SCIENCE, TECHNOLOGY AND DESIGN, vol.2, no.1, pp.16-26, 2021 (Peer-Reviewed Journal)
- II. **Investigation of Photoelectrical Properties ZnSe/Si Heterojunction Structure**
Kaplan H. K., Akay S. K.
Uludağ Üniversitesi Mühendislik Fakültesi Dergisi, vol.24, no.1, pp.265-275, 2019 (Peer-Reviewed Journal)
- III. **Electron Spin Resonance Responce of BaFe₂O₁₉ Nanoparticle Embedded Polydivinylbenzene Magnetic Film**
Peksöz A., Akay S. K.
Anadolu Üniversitesi Bilim ve Teknoloji Dergisi :A-Uygulamalı Bilimler ve Mühendislik, vol.17, no.4, pp.618-621, 2016 (Peer-Reviewed Journal)
- IV. **Cutting effect and surface characterization of as cast and post production treated Fe₄ 3Co₆₈ 2Si₁₂ 5B₁₅ amorphous wires**

Peksöz A., Akay S. K., Ertürk K., Hacismailoğlu M. C., Derebaşı N., Kaynak Z. G.

Journal of Optoelectronics and Advanced Materials - Symposia, vol.1, pp.355-358, 2009 (Peer-Reviewed Journal)

V. **İletim kablolarında Dielektrik Kayıp Faktörü**

Akay S. K., Avinç A.

SÜLEYMAN DEMİREL ÜNİVERSİTESİ FEN EDEBİYAT FAKÜLTESİ FEN DERGİSİ = SÜLEYMAN DEMİREL

UNIVERSITY FACULTY OF ARTS AND SCIENCE JOURNAL OF SCIENCE, vol.8, no.2, pp.133-136, 2004 (Peer-Reviewed Journal)

VI. **Physical Quality Control and Nondestructive Testing in Industry**

Akay S. K., Ahmet A.

BULGARIAN JOURNAL OF PHYSICS, vol.3, no.27, pp.191-194, 2000 (Peer-Reviewed Journal)

Refereed Congress / Symposium Publications in Proceedings

- I. **Anodizasyon yöntemi ile üretilen GS/Au eklemlerin farklı gözenek boyutlarına göre elektriksel parametrelerinin belirlenmesi**
ŞENTÜRK O., AYDIN YÜKSEL S., AKAY S. K.
X. YOĞUN MADDE FİZİĞİ İZMİR TOPLANTISI, 28 April 2023
- II. **Transparent, p-Type Conducting (CuS)_x:(ZnS)_{1-x} Based Nanocomposite Thin Films for Optoelectronic Applications**
Kaplan H. K., Olkun A., Akay S. K.
Turkish Physical Society 37th International Physics Congress, Muğla, Turkey, 1 - 05 September 2021, pp.159
- III. **Electrochemical deposition of diluted magnetic semiconductor CuCoTe thin film**
AKAY S. K., PEKSÖZ A.
14th International Conference of Nanosciences Nanotechnologies, Selanik, Greece, 4 - 07 July 2017
- IV. **Photo-detector potential of ZnS/n-Si isotype heterojunction device fabricated by thermionic vacuum arc**
Kaplan H. K., Sarsıcı S., Akay S. K.
Turkish Physical Society 32nd International Physics Congress, Muğla, Turkey, 6 - 09 September 2016, pp.139
- V. **Electrical and Optical Investigation of ZnS p Si Heterojunction Fabricated by Thermionic Vacuum Arc**
Akay S. K., Sarsıcı S., Kaplan H. K.
Türk Fizik Derneği 32. Uluslararası Fizik Kongresi, Muğla, Turkey, 6 - 10 September 2016, pp.1-15
- VI. **Electrical and Optical Investigation of ZnS/p-Si Heterojunction Fabricated by Using Thermionic Vacuum Arc**
Sarsıcı S., Kaplan H. K., Akay S. K.
Turkish Physical Society 32nd International Physics Congress, Muğla, Turkey, 6 - 09 September 2016, pp.154
- VII. **Photo Detector Potential of ZnS n Si Isotype Heterojunction Device Fabricated by Thermionic Vacuum Arc**
Akay S. K., Kaplan H. K., Sarsıcı S.
Türk Fizik Derneği 32. Uluslararası Fizik Kongresi, Muğla, Turkey, 6 - 09 September 2016, pp.1-15
- VIII. **The Growth of CuInTe Ternary Thin Films by Electrodeposition in Aqueous Solutions at room temperature**
PEKSÖZ A., AKAY S. K.
2 nd International Organic Electronic Material Conference, Çanakkale, Turkey, 17 - 19 May 2016
- IX. **Fotovoltaik Hücre Uygulamaları İçin Cam Üzerine RF Magnetron Sıçratma ile Oluşturulmuş ZnO İnce Filmlerin Elektrik ve Optik Özelliklerinin İncelenmesi**
Kaplan H. K., Sarsıcı S., Akay S. K.
V. Ulusal Güneş ve Hidrojen Enerjisi Kongresi, Eskişehir, Turkey, 12 - 13 May 2016, pp.60
- X. **BaFe₁₂O₁₉ polyDivinylbenzene Manyetik Polimer İnce Filminin Elektron Spin Rezonans Duyarlılığı**
PEKSÖZ A., AKAY S. K.
Adım Fizik Günleri V, Eskişehir, Turkey, 21 - 23 April 2016

- XI. **Tekstil Yüzevi Tabanlı Güneş Pillerinin Üretimi**
KORAL KOÇ S., DÜZYER Ş., HOCKENBERGER A., UĞUZ A., PEKSÖZ A., AKAY S. K., PAT S., FIRAT Y. E., DEMİRİZ T. M., YILDIRIM H.
VII. ULUSLARARASI AR-GE PROJE PAZARI, 27 - 29 May 2015
- XII. **Development of Solar Cells on Textile Substrates**
Koral Koç S., Düzyer Ş., Hockenberger A., Uğuz A., Tapan İ., Peksöz A., Akay S. K., Pat S., Fırat Y. E., Demiriz T. M., et al.
UTİB Turkish Textile and Clothing Sector VII. International R&D Brokerage Event, İstanbul, Turkey, 27 - 29 May 2015, pp.757-758
- XIII. **Temperature Dependence of Electrical Characteristics of Ag/N-GaAs Schottky Barrier Diodes**
Kucur B., Ahmetoğlu M., Akay S. K., Ertürk K., Özer M.
International Semiconductor Science and Technology Conference, İstanbul, Turkey, 13 - 15 January 2014
- XIV. **An Investigation on Surface and Electrical Properties of Electrical Discharge Machined AISI D2 ToolSteel**
DURMUŞ A., BAYRAM A., GÜLÇİMEN ÇAKAN B., şenol g., AKAY S. K.
An Investigation on Surface and Electrical Properties of Electrical Discharge Machined AISI D2 ToolSteel, 24 - 28 April 2013
- XV. **Magnetic Behavior of poly (Divinylbenzene)/BAFE12019 and FE3O4 Nanocomposites**
AKAY S. K., PEKSÖZ A., KARA A., DEREBAŞI N.
21th Soft Magnetic Conference, Budapest, Hungary, 1 - 04 April 2013

Supported Projects

- AYDEMİR U., PEKSÖZ A., AKYILDIZ H. İ., TEMEL Ş. G., AKAY S. K., KARABÖRKLÜ Ö., DEMİRTAŞ M., KAPLAN H. K., ŞAFAK HACİİSMAİLOĞLU M., HAYBER Ş. E., et al., Project Supported by Higher Education Institutions, İki Boyutlu Grafen ve Metal Kalkojen Tabanlı Mikro-Nano Sistemlerin Geliştirilmesi ve Uygulamaları, 2024 - Continues
- AKAY S. K., Project Supported by Higher Education Institutions, Farklı Disiplin Alanlarına Özgü Çeşitli Nesnelere Taramalı Elektron Mikroskopu Vasıtasıyla Görüntülenmesi ve Yapısal Analizlerinin Gerçekleştirilmesi, 2023 - 2024
- Akay S. K., Aydın Yüksel S., Şentürk O., Project Supported by Higher Education Institutions, Gözenekli Silisyum/organik yarıiletken eklemlerin fiziksel özelliklerinin incelenmesi, 2023 - 2024
- Akay S. K., Olkun A., Sarsıcı S., Project Supported by Higher Education Institutions, Galyum Nitrür Tabanlı III-V Grubu Geniş Bant Aralıklı Yarıiletken Yapıların Üretilmesi Elektriksel ve Radyasyona Bağlı Özelliklerinin İncelenmesi, 2022 - 2024
- Akay S. K., Öztatlı A., Project Supported by Higher Education Institutions, CdS Üzerine MgF2 Temelli Yansıma Önleyici İnce Film Kaplamaların Üretilmesi ve Karakterizasyonu, 2021 - 2022
- Akay S. K., Kaplan H. K., Project Supported by Higher Education Institutions, Kalkojenit Temelli Nanokompozit İnce Filmlerin Üretilmesi ve Optoelektronik Cihaz Uygulaması, 2021 - 2022
- Yazıcı M., Akay S. K., Deliktaş B., Durmuş A., Aykut Y., TUBITAK Project, Development of a novel macro level selfhealing hybrid sandwich panels and determination of the panels' healing performance under static, impact and shock loading conditions., 2019 - 2022
- KARA A., AHMETOĞLU M., AKAY S. K., PEKSÖZ A., Project Supported by Higher Education Institutions, Yeni Sınıf İletken ve Manyetik Polimerik İnce Filmlerin Hazırlanması ve Elektrik Manyetik Özelliklerinin İncelenmesi, 2012 - 2017
- Akay S. K., Peksöz A., Project Supported by Higher Education Institutions, ElektroKimyasal Depozisyon Yöntemiyle Yeni Nesil CuxS Güneş Pili İnce Filmlerin Üretilmesi, 2015 - 2016
- PEKSÖZ A., KÜÇÜK İ., HACİİSMAİLOĞLU M. C., AKAY S. K., Project Supported by Higher Education Institutions, Güneş pili uygulamaları için CuInSe2 ve Cu InGa Se2 ince filmlerin üretilmesi ve karakterizasyonu, 2013 - 2016
- Ahmetoğlu M., Akay S. K., Project Supported by Private Organizations in Other Countries, High efficiency Thermophotovoltaic elements for conversion of thermal energy into electricity from low temperature sources at the 2 - 4 micrometers spectral range, 2009 - 2011
- Akay S. K., Peksöz A., Project Supported by Higher Education Institutions, Türkiyedeki çeşitli petrol kuyularından alınan

asfalt ve asfaltten örneklerinin çeşitli fiziksel ve kimyasal özelliklerinin incelenmesi, 2009 - 2011

Yazıcı M., Akay S. K., Avinç A., Project Supported by Higher Education Institutions, Otomotiv Endüstrisinde Uygulanan Kaynaklı Bağlantıların Mukavemet Analizleri ve Yorulma Açısından Nokta Kaynak Optimizasyonu, 2004 - 2006

Activities in Scientific Journals

International Journal of Science, Technology and Desing, Committee Member, 2020 - Continues

Metrics

Publication: 48

Citation (WoS): 289

Citation (Scopus): 327

H-Index (WoS): 10

H-Index (Scopus): 10

Congress and Symposium Activities

International Workshop on Magnetic Wires, Working Group, Muğla, Turkey, 2010

8th European Conference on MAGNETIC SENSORS and ACTUATORS, Working Group, Muğla, Turkey, 2010

Non Academic Experience

Uludağ Üniversitesi