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Education Information

Doctorate, Erciyes University, Fen Bilimleri Enstitüsü, Fizik (Dr), Turkey 2001 - 2007

Postgraduate, Erciyes University, Fen Bilimleri Enstitüsü, Fizik (YI) (Tezli), Turkey 1998 - 2001

Undergraduate, Ataturk University, Fen-Edebiyat Fakültesi, Fizik Bölümü, Turkey 1994 - 1998

Dissertations

Doctorate, Au, Cu ve Al/n-InP Schottky eklemlerin karakteristik parametrelerinin belirlenmesi, Erciyes University, Fen Bilimleri Enstitüsü, Fizik (Dr), 2007

Postgraduate, Amorf silikon ve selenyum güneş pillerinde voltaj kontrollü fotoakımın ölçülmesi, Erciyes University, Fen Bilimleri Enstitüsü, Fizik (YI) (Tezli), 2001

Academic Titles / Tasks

Professor, Yozgat Bozok University, Fen-Edebiyat Fakültesi, Fizik Bölümü, 2015 - Continues

Associate Professor, Yozgat Bozok University, Fen-Edebiyat Fakültesi, Fizik Bölümü, 2010 - Continues

Assistant Professor, Yozgat Bozok University, Fen-Edebiyat Fakültesi, Fizik Bölümü, 2007 - 2010

Research Assistant, Erciyes University, Yozgat Fen-Edebiyat Fakültesi, Fizik Pr., 2002 - 2007

Academic and Administrative Experience

Dean, Yozgat Bozok University, 2024 - Continues

Yozgat Bozok University, 2012 - 2015

Courses

MİKROÇİP FABRİKASYONU II, Undergraduate, 2013 - 2014

YARIİLETKENLER FİZİĞİ I, Undergraduate, 2013 - 2014

MİKROÇİP FABRİKASYONU I, Undergraduate, 2013 - 2014

YARIİLETKENLER FİZİĞİ II, Undergraduate, 2013 - 2014

ELEKTRONİK I, Undergraduate, 2013 - 2014

ELEKTRONİK LABORATUARI I, Undergraduate, 2013 - 2014

ELEKTRONİK II, Undergraduate, 2013 - 2014

Advising Theses

- ÇETİN H., Doğal boyayla duyarlılaştırılmış güneş pili üretimi ve yapının sensör karakteristiklerinin belirlenmesi, Doctorate, M.ÖZBAY(Student), 2017
- ÇETİN H., Yeni türdeki jellerin boya duyarlı güneş pillerinde kullanılması, Postgraduate, T.ÖNEN(Student), 2016
- ÇETİN H., Gama ve beta ışınlarının grafen alan etkili transistör karakteristikleri üzerine etkisi, Postgraduate, M.EREN(Student), 2015
- ÇETİN H., Grafen esashı elektronik devre elemanlarının elektriksel karakteristiklerinin incelenmesi, Doctorate, B.BOYARBAY(Student), 2015
- ÇETİN H., Grafen alan etkili transistörlerde litografik kalıntıların SERS yöntemiyle incelenmesi, Postgraduate, A.ŞİMŞEK(Student), 2014
- ÇETİN H., TLM metodu ile grafen üzerine yapılan metal kontakların direncinin belirlenmesi, Postgraduate, E.YAYAN(Student), 2014
- ÇETİN H., Grafen transistörlerin elektriksel parametrelerinin belirlenmesi, Postgraduate, M.ÖZTÜRK(Student), 2011

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **A roadmap for hydrogel-based quasi-solid electrolyte preparation for use in dye-sensitized solar cell**
Özbay Karakuş M., Eren Yakışıklar M., Delibaş A., Çetin H.
ELECTROCHIMICA ACTA, vol.427, no.140841, pp.140841-140850, 2022 (SCI-Expanded)
- II. **The effect of thymus syriacus plant extract on the main physical and antibacterial activities of ZnO nanoparticles synthesized by SILAR method**
Sahin B., Aydin R., Soylu S., Turkmen M., Kara M., Akkaya A., Cetin H., Ayyildiz E.
INORGANIC CHEMISTRY COMMUNICATIONS, vol.135, 2022 (SCI-Expanded)
- III. **A green approach for the preparation of nanostructured zinc oxide: Characterization and promising antibacterial behaviour**
Tasdemir A., Aydin R., Akkaya A., Akman N., Altinay Y., Cetin H., Sahin B., Uzun A., Ayyildiz E.
CERAMICS INTERNATIONAL, vol.47, no.14, pp.19362-19373, 2021 (SCI-Expanded)
- IV. **Superior antibacterial activity against seed-borne plant bacterial disease agents and enhanced physical properties of novel green synthesized nanostructured ZnO using Thymbra spicata plant extract**
Sahin B., Soylu S., Kara M., Turkmen M., Aydin R., Cetin H.
CERAMICS INTERNATIONAL, vol.47, no.1, pp.341-350, 2021 (SCI-Expanded)
- V. **Solution-processed nanostructured ZnO/CuO composite films and improvement its physical properties by lustrous transition metal silver doping**
Akkaya A., Sahin B., Aydin R., cetin H., Ayyildiz E.
JOURNAL OF MATERIALS SCIENCE-MATERIALS IN ELECTRONICS, vol.31, no.17, pp.14400-14410, 2020 (SCI-Expanded)
- VI. **Tuning the morphological, structural, optical and dielectric properties of hausmannite (Mn₃O₄) films by doping heavy metal lead**
ŞAHİN B., AYDIN R., ÇETİN H.
SUPERLATTICES AND MICROSTRUCTURES, vol.143, 2020 (SCI-Expanded)
- VII. **Anionic and cationic polymer-based quasi-solid-state dye-sensitized solar cell with poly(aniline) counter electrode**
ÖZBAY KARAKUŞ M., EREN YAKIŞIKLIER M., DELİBAŞ A., AYYILDIZ E., ÇETİN H.
SOLAR ENERGY, vol.195, pp.565-572, 2020 (SCI-Expanded)
- VIII. **Reaching stability at DSSCs with new type gel electrolytes**
Onen T., ÖZBAY KARAKUŞ M., COŞKUN R., ÇETİN H.
JOURNAL OF PHOTOCHEMISTRY AND PHOTOBIOLOGY A-CHEMISTRY, vol.385, 2019 (SCI-Expanded)

- IX. **Variation of the key morphological, structural, optical and electrical properties of SILAR CdO with alkaline earth Ca²⁺ ions doping**
ŞAHİN B., Aydi R., ÇETİN H.
CERAMICS INTERNATIONAL, vol.45, no.14, pp.16748-16758, 2019 (SCI-Expanded)
- X. **A Study on the Electronic Properties of SiO_xNy/p-Si Interface**
Akkaya A., Boyarbay B., Cetin H., Yildizli K., Ayyildiz E.
SILICON, vol.10, no.6, pp.2717-2725, 2018 (SCI-Expanded)
- XI. **Dye ingredients and energy conversion efficiency at natural dye sensitized solar cells**
ÖZBAY KARAKUŞ M., KOCA İ., Er O., ÇETİN H.
OPTICAL MATERIALS, vol.66, pp.552-558, 2017 (SCI-Expanded)
- XII. **The effects of lithographic residues and humidity on graphene field effect devices**
Kantar B. B., Ozturk M., ÇETİN H.
BULLETIN OF MATERIALS SCIENCE, vol.40, no.1, pp.239-245, 2017 (SCI-Expanded)
- XIII. **A comparison of the magnetic properties of Ni and Co nanowires deposited in different templates and on different substrates**
Yalcin O., Kartopu G., Cetin H., Demiray A. S., Kazan S.
JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS, vol.373, pp.207-212, 2015 (SCI-Expanded)
- XIV. **Effect of thermal annealing on electrical and structural properties of Ni/Au/n-GaN Schottky contacts**
Akkaya A., Esmer L., Kantar B. B., Cetin H., Ayyildiz E.
MICROELECTRONIC ENGINEERING, vol.130, pp.62-68, 2014 (SCI-Expanded)
- XV. **Electrical characterization of heterojunction between polyaniline titanium dioxide tetradecyltrimethylammonium bromide and n-silicon**
Cetin H., Boyarbay B., Akkaya A., Uygun A., Ayyildiz E.
SYNTHETIC METALS, vol.161, pp.2384-2389, 2011 (SCI-Expanded)
- XVI. **Electrical characterization of the polyaniline/p-silicon and polyaniline titanium dioxide tetradecyltrimethylammonium bromide/p-silicon heterojunctions**
Boyarbay B., Cetin H., Uygun A., Ayyildiz E.
THIN SOLID FILMS, vol.518, no.8, pp.2216-2221, 2010 (SCI-Expanded)
- XVII. **On barrier height inhomogeneities of Au and Cu/n-InP Schottky contacts**
Cetin H., Ayyildiz E.
PHYSICA B-CONDENSED MATTER, vol.405, no.2, pp.559-563, 2010 (SCI-Expanded)
- XVIII. **Correlation between barrier heights and ideality factors of H-terminated Sn/p-Si(100) Schottky barrier diodes**
Boyarbay B., Cetin H., Kaya M., Ayyildiz E.
MICROELECTRONIC ENGINEERING, vol.85, no.4, pp.721-726, 2008 (SCI-Expanded)
- XIX. **Temperature dependence of the current-voltage characteristics of Sn/PANI/p-Si/Al heterojunctions**
Kaya M., Cetin H., Boyarbay B., Gok A., Ayyildiz E.
JOURNAL OF PHYSICS-CONDENSED MATTER, vol.19, no.40, 2007 (SCI-Expanded)
- XX. **Electrical characteristics of Au, Al, Cu/n-InP Schottky contacts formed on chemically cleaned and air-exposed n-InP surface**
Cetin H., Ayyildiz E.
PHYSICA B-CONDENSED MATTER, vol.394, no.1, pp.93-99, 2007 (SCI-Expanded)
- XXI. **The electrical properties of metal-oxide-semiconductor devices fabricated on the chemically etched n-InP substrate**
Cetin H., Ayyildiz E.
APPLIED SURFACE SCIENCE, vol.253, no.14, pp.5961-5966, 2007 (SCI-Expanded)
- XXII. **Barrier height enhancement and stability of the Au/n-InP Schottky barrier diodes oxidized by absorbed water vapor**
Cetin H., Ayyildiz E., Turut A.
JOURNAL OF VACUUM SCIENCE & TECHNOLOGY B, vol.23, no.6, pp.2436-2443, 2005 (SCI-Expanded)
- XXIII. **Temperature dependent electrical characteristics of Sn/p-Si Schottky diodes**

- Ayyildiz E., Cetin H., Horvath Z.
APPLIED SURFACE SCIENCE, vol.252, no.4, pp.1153-1158, 2005 (SCI-Expanded)
- XXIV. **The effect of series resistance on capacitance-voltage characteristics of Schottky barrier diodes**
Sahin B., Cetin H., Ayyildiz E.
SOLID STATE COMMUNICATIONS, vol.135, no.8, pp.490-495, 2005 (SCI-Expanded)
- XXV. **Ti/p-Si Schottky barrier diodes with interfacial layer prepared by thermal oxidation**
Cetin H., Sahin B., Ayyildiz E., Turut A.
PHYSICA B-CONDENSED MATTER, vol.364, pp.133-141, 2005 (SCI-Expanded)
- XXVI. **Temperature dependence of electrical parameters of the Au/n-InP Schottky barrier diodes**
Cetin H., Ayyildiz E.
SEMICONDUCTOR SCIENCE AND TECHNOLOGY, vol.20, no.6, pp.625-631, 2005 (SCI-Expanded)
- XXVII. **The barrier-height inhomogeneity in identically prepared H-terminated Ti/p-Si Schottky barrier diodes**
Cetin H., Sahin B., Ayyildiz E., Turut A.
SEMICONDUCTOR SCIENCE AND TECHNOLOGY, vol.19, no.9, pp.1113-1116, 2004 (SCI-Expanded)

Articles Published in Other Journals

- I. **Fabrication and Characterization of Polyaniline and Polyaniline/Nanostructured-ZnO FET Hydrogen Gas Sensors**
ÖZBAY KARAKUŞ M., ÇETİN H.
Erciyes Üniversitesi Fen Bilimleri Enstitüsü Dergisi, vol.37, no.1, pp.99-109, 2021 (Peer-Reviewed Journal)

Refereed Congress / Symposium Publications in Proceedings

- I. **Manufacturing of Graphitic Carbon Nitride Modified Cannabis Based Counter Electrodes and The Applications in DSSC**
ÖZBAY KARAKUŞ M., ÖNEN T., ÇETİN H., DELİBAŞ A., EREN YAKIŞIKLIER M.
TURKISH PHYSICAL SOCIETY 39th INTERNATIONAL PHYSICS CONGRESS, Muğla, Turkey, 31 August - 04 September 2023, vol.1, pp.129
- II. **EFFECT OF CANNABIS BASED NANOCELLULOSE ADDITIVE AMOUNT ON DYE-SENSITIZED SOLAR CELL EFFICIENCY**
ÖZBAY KARAKUŞ M., ÇETİN H., DELİBAŞ A., EREN YAKIŞIKLIER M., ÖNEN T.
17th nanoscience and nanotechnology conference (NANO TR-17), İzmir, Turkey, 27 - 29 August 2023, vol.1, pp.46
- III. **Yarı Katı Jel Üretimi Ve Çapraz Bağ Miktarının Boyayla Duyarlılaştırılmış Güneş Pili Verimine Etkisi**
ÖZBAY KARAKUŞ M., ÇETİN H., DELİBAŞ A.
AEGEAN SUMMIT 2nd INTERNATIONAL APPLIED SCIENCES CONGRESS, İzmir, Turkey, 27 - 28 March 2021, pp.52-54
- IV. **A New Type Quasi-Solid Gel Usage at Dye-Sensitized Solar Cell**
ÇETİN H., ÖZBAY KARAKUŞ M., EREN YAKIŞIKLIER M., DELİBAŞ A.
2nd International Turkish World Engineering and Science Congress, Antalya, Turkey, 7 - 10 November 2019, vol.5, pp.9
- V. **GRAPHENE FIELD EFFECT SENSOR FOR DETECTION OF ESCHERICHIA COLI K-12 STRAIN**
Eren Yakişiklier M., Çetin H., Özbay Karakuş M., Delibaş A.
2nd International Turkish World Engineering and Science Congress, Antalya, Turkey, 7 - 10 November 2019, vol.5, pp.161
- VI. **POLYANILINE FIELD EFFECT MEMORY DEVICE**
ÇETİN H., ÖZBAY KARAKUŞ M., EREN YAKIŞIKLIER M., DELİBAŞ A.
2nd International Turkish World Engineering and Science Congress, Antalya, Turkey, 7 - 10 November 2019, vol.5,

pp.267

VII. New Type Gels for Dye Sensitized Solar Cells

Önen T., ÖZBAY KARAKUŞ M., COŞKUN R., Eren Yakışıklar M., ÇETİN H.

1st International Underground Resources and Energy Conference, Bozok University (Yozgat-TURKEY), October 6-8, 2016, Yozgat, Turkey, 6 - 08 November 2016

VIII. New Type Gels for Dye Sensitized Solar Cells

ÖNEN T., ÖZBAY KARAKUŞ M., COŞKUN R., EREN YAKIŞIKLIER M., ÇETİN H.

First International Underground Resources and Energy Conference, Yozgat, Turkey, 6 - 08 October 2016

IX. Dyes Extracted From Pelargonium Flowers A Solar Cell Application and Dyes Ingredients Analysis Study

ÖZBAY KARAKUŞ M., KOCA İ., KOCA A., GÜMÜŞ M., ER O., ÇETİN H.

First International Underground Resources and Energy Conference, Yozgat, Turkey, 6 - 08 October 2016

X. ORGANIC DYES FOR TiO₂ DYE SENSITIZED SOLAR CELLS

ÖZBAY KARAKUŞ M., Önen T., ÇETİN H.

Fifth Bozok Science Workshop Nano Carbon Materials and Their Applications, 28 - 29 April 2016

XI. A NEW NATURAL DYE SOURCE-PELARGONIUM FLOWERS FOR DYESENSITIZED SOLAR CELLS

ÖZBAY KARAKUŞ M., ÇETİN H.

9th International Physics Conference of the Balkan Physical Union, İstanbul, Turkey, 24 - 27 August 2015, vol.9, pp.226

XII. CO SENSING PROPERTIES OF POLYANILINE BASED SENSOR

ÖZBAY KARAKUŞ M., DELİBAŞ A., ÇETİN H.

9th INTERNATIONAL PHYSICS CONFERENCE OF THE BALKAN PHYSICAL UNION – BPU9, 24-27 AUGUST 2015, İSTANBUL UNIVERSITY, İSTANBUL / TURKEY, İstanbul, Turkey, 24 - 27 August 2015, pp.255

Metrics

Publication: 47

Citation (WoS): 829

Citation (Scopus): 566

H-Index (WoS): 17

H-Index (Scopus): 15

Non Academic Experience

Fen Edebiyat Fakültesi