

Assoc. Prof. MUHARREM KIRAK

Personal Information

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Education Information

Doctorate, Erciyes University, Fen Bilimleri Enstitüsü, Fizik (Dr), Turkey 2007 - 2011

Postgraduate, Erciyes University, Fen Bilimleri Enstitüsü, Fizik (YI) (Tezli), Turkey 2005 - 2007

Undergraduate, Erciyes University, Fen-Edebiyat Fakültesi, Fizik Pr., Turkey 2000 - 2005

Dissertations

Doctorate, Küresel kuantum noktalarında dış elektrik ve manyetik alanda hidrojenik safsızlık problemi, Erciyes University, Fen Bilimleri Enstitüsü, Fizik (Dr), 2011

Postgraduate, Kinetik spin-3/2 Ising modelinde dinamik dipol ve kuadrupol faz geçişleri, Erciyes University, Fen Bilimleri Enstitüsü, Fizik (YI) (Tezli), 2007

Research Areas

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

Academic Titles / Tasks

Associate Professor, Yozgat Bozok University, Eğitim Fakültesi, Matematik Ve Fen Bilimleri Eğitimi, 2018 - Continues

Assistant Professor, Yozgat Bozok University, Eğitim Fakültesi, Temel Eğitim, 2013 - 2018

Assistant Professor, Yozgat Bozok University, Eğitim Fakültesi, Matematik Ve Fen Bilimleri Eğitimi, 2012 - 2013

Research Assistant, Yozgat Bozok University, Fen-Edebiyat Fakültesi, Fizik, 2007 - 2012

Academic and Administrative Experience

Head of Department, Yozgat Bozok University, Eğitim Fakültesi, Matematik Ve Fen Bilimleri Eğitimi, 2020 - Continues

Head of Department, Yozgat Bozok University, Eğitim Fakültesi, Temel Eğitim, 2018 - 2020

Deputy Head of Department, Yozgat Bozok University, Eğitim Fakültesi, Matematik Ve Fen Bilimleri Eğitimi, 2013 - 2014

Courses

FİZİK II, Undergraduate, 2017 - 2018, 2018 - 2019

ÇEVREMİZDEKİ FİZİK, Undergraduate, 2018 - 2019

GENEL FİZİK, Undergraduate, 2014 - 2015, 2018 - 2019

GENEL FİZİK LAB. III, Undergraduate, 2014 - 2015, 2017 - 2018, 2018 - 2019

OKUL DENEYİMİ, Undergraduate, 2018 - 2019

TOPLUMA HİZMET UYGULAMALARI, Undergraduate, 2017 - 2018, 2018 - 2019
ÖĞRETMENLİK UYGULAMASI, Undergraduate, 2017 - 2018, 2018 - 2019
FİZİK I, Undergraduate, 2017 - 2018, 2018 - 2019
GENEL FİZİK III, Undergraduate, 2014 - 2015, 2017 - 2018, 2018 - 2019
ARAŞTIRMA PROJESİ, Undergraduate, 2018 - 2019
TEKNİK ELEKTRİK, Undergraduate, 2017 - 2018
BİLGİSAYAR I, Undergraduate, 2013 - 2014, 2014 - 2015, 2017 - 2018
MODERN FİZİĞE GİRİŞ, Undergraduate, 2014 - 2015, 2017 - 2018
FİZİKTE YAYGIN KAVRAM YANILGILARI VE GİDERME YÖNTEMLERİ, Postgraduate, 2013 - 2014, 2014 - 2015
BİLGİSAYAR II, Undergraduate, 2013 - 2014, 2014 - 2015
GENEL FİZİK LAB. II, Undergraduate, 2013 - 2014, 2014 - 2015
MESLEKİ İNGİLİZCE I, Postgraduate, 2013 - 2014
FEN EĞİTİMİNDE FİZİK KONULARI VE KAVRAMLARI, Postgraduate, 2013 - 2014
SEMİNER, Postgraduate, 2013 - 2014
GENEL FİZİK LAB. I, Undergraduate, 2013 - 2014

Advising Theses

KIRAK M., Asimetrik yarı parabolik kuantum kuyuların elektronik ve optik özellikleri, Postgraduate, A.SIRLI(Student), 2015

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Third harmonic generation of spherical multilayered quantum dot: effects of quantum confinement, impurity, electric and magnetic fields**
KIRAK M., YILMAZ S.
APPLIED PHYSICS A-MATERIALS SCIENCE & PROCESSING, vol.128, no.5, 2022 (Journal Indexed in SCI)
- II. **Magnetic and thermodynamic properties of GaAs quantum dot confined by parabolic-inverse square plus gaussian potential**
Kirak M.
JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS, vol.536, 2021 (Journal Indexed in SCI)
- III. **Effects of electric and magnetic fields on the binding energy and second harmonic generation for on- and off-center donor impurities in spherical multilayer quantum dot**
Kirak M.
EUROPEAN PHYSICAL JOURNAL PLUS, vol.136, no.6, 2021 (Journal Indexed in SCI)
- IV. **Electronic and optical properties of double ring-shaped quantum dot**
KIRAK M., YILMAZ S.
JOURNAL OF NANOPHOTONICS, vol.14, no.1, 2020 (Journal Indexed in SCI)
- V. **An investigation on the effect of impurity position on the binding energy of quantum box under electric field with pressure and temperature**
Yilmaz S., Kirak M.
INTERNATIONAL JOURNAL OF MODERN PHYSICS B, vol.32, no.13, 2018 (Journal Indexed in SCI)
- VI. **Size-dependent electronic and optical properties in zinc-blende InGaN/GaN multilayer spherical quantum dot**
Ortakaya S., Kirak M., GÜLDESTE A.
JOURNAL OF NONLINEAR OPTICAL PHYSICS & MATERIALS, vol.26, no.3, 2017 (Journal Indexed in SCI)
- VII. **Hydrostatic pressure and temperature effects on the binding energy and optical absorption of a multilayered quantum dot with a parabolic confinement**
Ortakaya S., KIRAK M.

CHINESE PHYSICS B, vol.25, no.12, 2016 (Journal Indexed in SCI)

- VIII. **Impurity position effects on the linear and nonlinear optical properties of the cubic quantum dot under an external electric field**
KIRAK M., YILMAZ S.
JOURNAL OF PHYSICS D-APPLIED PHYSICS, vol.48, no.32, 2015 (Journal Indexed in SCI)
- IX. **Binding Energies and Linear and Nonlinear Optical Properties of a Donor Impurity in a Three-Dimensional Quantum Pseudodot**
KIRAK M., YILMAZ S.
ZEITSCHRIFT FUR NATURFORSCHUNG SECTION A-A JOURNAL OF PHYSICAL SCIENCES, vol.68, no.12, pp.744-750, 2013 (Journal Indexed in SCI)
- X. **The effects of the hydrostatic pressure and temperature on binding energy and optical properties of a donor impurity in a spherical quantum dot under external electric field**
Kirak M., Altinok Y., Yilmaz S.
JOURNAL OF LUMINESCENCE, vol.136, pp.415-421, 2013 (Journal Indexed in SCI)
- XI. **Nonlinear Optical Rectification and Oscillator Strength in a Spherical Quantum Dot with Parabolic Confinement in the Presence of the Electric Field**
KIRAK M., YILMAZ S., TEMİZER Ü.
JOURNAL OF NANOELECTRONICS AND OPTOELECTRONICS, vol.8, no.2, pp.165-169, 2013 (Journal Indexed in SCI)
- XII. **The electric field effects on the third-harmonic generation in spherical quantum dots with parabolic confinement**
Kirak M., Altinok Y.
EUROPEAN PHYSICAL JOURNAL B, vol.85, no.10, 2012 (Journal Indexed in SCI)
- XIII. **The electric field effects on the binding energies and the nonlinear optical properties of a donor impurity in a spherical quantum dot**
Kirak M., Yilmaz S., ŞAHİN M., Gencaslan M.
JOURNAL OF APPLIED PHYSICS, vol.109, no.9, 2011 (Journal Indexed in SCI)
- XIV. **Effects of the Magnetic Field on the Linear and Nonlinear Optical Absorption Coefficients and the Refractive Index Changes in a Spherical Quantum Dot**
KIRAK M., YILMAZ S., GENÇASLAN M.
JOURNAL OF NANOELECTRONICS AND OPTOELECTRONICS, vol.5, no.3, pp.391-396, 2010 (Journal Indexed in SCI)
- XV. **Dynamic Dipole and Quadrupole Phase Transitions in the Kinetic Metamagnetic Spin-3/2 Blume-Emery-Griffiths Model**
Kirak M., Canko O., KESKİN M.
ZEITSCHRIFT FUR NATURFORSCHUNG SECTION A-A JOURNAL OF PHYSICAL SCIENCES, vol.64, pp.185-199, 2009 (Journal Indexed in SCI)
- XVI. **Phase diagrams of the kinetic metamagnetic spin-3/2 Blume-Capel model in an oscillating external field**
Keskin M., Canko O., Kirak M.
PHYSICA STATUS SOLIDI B-BASIC SOLID STATE PHYSICS, vol.244, no.10, pp.3775-3788, 2007 (Journal Indexed in SCI)
- XVII. **Dynamic phase transition in the kinetic spin-3/2 blume-emery-griffiths model: Phase diagram in the temperature and interaction parameters planes**
Keskin M., Deviren B., Canko O., Kirak M.
ACTA PHYSICA POLONICA B, vol.38, no.8, pp.2445-2457, 2007 (Journal Indexed in SCI)
- XVIII. **Dynamic dipole and quadrupole phase transitions in the kinetic spin-3/2 model**
Keskin M., Canko O., Kirak M.
JOURNAL OF STATISTICAL PHYSICS, vol.127, no.2, pp.359-380, 2007 (Journal Indexed in SCI)

Articles Published in Other Journals

- I. **Basıncın ve Sıcaklığın Dış Elektrik Alan Altındaki Kübik Kuantum Noktasının Üçüncü Harmonik Üretimi Üzerine Etkisi**
KIRAK M.
Gümüşhane Üniversitesi Fen Bilimleri Enstitüsü Dergisi, vol.9, no.1, pp.80-87, 2019 (Other Refereed National Journals)

Citations

Total Citations (WOS):321

h-index (WOS):9