

Prof. ERHAN ALBAYRAK

Personal Information

Office Phone: [+90 352 207 6666](tel:+903522076666) Extension: 33117

Fax Phone: [+90 352 437 4933](tel:+903524374933)

Email: albayrak@erciyes.edu.tr

Web: <https://avesis.erciyes.edu.tr/albayrak/cv>

Address: Erciyes Üniversitesi, Fen Fakültesi, Fizik Bölümü 38039 Kayseri TÜRKİYE

International Researcher IDs

ORCID: 0000-0003-2695-0912

Publons / Web Of Science ResearcherID: AAL-8085-2021

ScopusID: 6603742224

Yoksis Researcher ID: 13320

Education Information

Doctorate, University of Massachusetts Lowell, Science Faculty, Physics/ General Physics, United States Of America 1993 - 1997

Postgraduate, University of Missouri-Columbia, Science Faculty, Physics/ General Physics, United States Of America 1991 - 1993

Undergraduate, Erciyes University, Fen-Edebiyat Fakültesi, Fizik, Turkey 1986 - 1990

Foreign Languages

English, C1 Advanced

Certificates, Courses and Trainings

Education Management and Planning, Eğitim Formasyonu, Erciyes Üniversitesi, 1990

Dissertations

Doctorate, Computer Modeling For the Two- and Three-Dimensional Avalanche Photodiode, University Of Massachusetts Lowell, Science Faculty, Physics/ General Physics, 1997

Postgraduate, Absorption and Scattering from the Spherical Particles, University Of Missouri-Columbia, Science Faculty, Physics/ General Physics, 1993

Research Areas

Physics, General Physics, Mathematical Methods in Physics, Condensed Matter 1: Structural, Mechanical and Thermal Properties, Equations of State, Phase Equilibria, and Phase Transitions, Intensive Article 2: Electronic Structure, Electric, Magnetic and Optical Properties, Magnetic Properties and Materials, Natural Sciences

Academic Titles / Tasks

Professor, Erciyes University, Fen Fakültesi, Fizik, 2009 - Continues
Associate Professor, Erciyes University, Fen Fakültesi, Fizik, 2003 - 2009
Assistant Professor, Erciyes University, Fen Fakültesi, Fizik, 1998 - 2003
Lecturer PhD, Erciyes University, Fen Fakültesi, Fizik, 1997 - 1998
Research Assistant, University of Massachusetts Lowell, Science Faculty, Physics, 1996 - 1997
Research Assistant, University of Missouri-Columbia, Science Faculty, Physics, 1992 - 1993

Academic and Administrative Experience

Erciyes University, 2011 - 2013
Erciyes Üniversitesi, 2009 - 2013
Erciyes Üniversitesi, 2009 - 2012
Erciyes Üniversitesi, 2009 - 2012

Courses

Dalgalar ve Titreşimler, Undergraduate, 2011 - 2012
Kuantum Mekaniği I, Postgraduate, 2008 - 2009

Advising Theses

ALBAYRAK E., The Obtaining of the Phase Diagrams for AFM/AFM and FM/AFM Cases of Spin-1 Ising Model on a Two-Layer Bethe Lattice, Doctorate, Ş.Akkaya(Student), 2011
ALBAYRAK E., The Phase Diagrams of spin-1/2 Ising AFM/AFM ve FM/AFM Models on the Two-Layer Bethe Lattice with External Magnetic Field, Postgraduate, T.Cengiz(Student), 2010
ALBAYRAK E., The Phase Diagrams of the Spin-(1/2,1,1/2) ve Spin-(1,1/2,1) Ising Models on the Bethe Lattice, Postgraduate, A.Aker(Student), 2010
ALBAYRAK E., The Phase Diagrams of Spin-3/2 Ising Models for the AFM/AFM ve FM/AFM Cases on Two-layer Bethe Lattices, Doctorate, A.Yiğit(Student), 2010
ALBAYRAK E., The Phase Diagrams for the Spin-(S=1/2, ?=1), Spin-(S=1, ?=3/2) and Spin-(S=3/2, ?=1/2) Ising Models on a Two-Layer Bethe Lattice, Postgraduate, T.Bulut(Student), 2008
ALBAYRAK E., The Exact Phase Diagrams of the Spin-2 Ising model on a Two-Layer Bethe Lattice with and without Crystal Fields, Postgraduate, Ş.Akkaya(Student), 2007
ALBAYRAK E., The Exact Phase Diagrams of the Spin-3/2 Ising model on a Two-Layer Bethe Lattice with and without Crystal Fields, Postgraduate, Ş.Yılmaz(Student), 2007
ALBAYRAK E., The Critical Behaviors of the mixed spin-1 and spin-2 Blume-Capel Ising Ferromagnetic System, Postgraduate, A.Yiğit(Student), 2006
ALBAYRAK E., The Analysis of mixed-spin spin-1/2 and spin-3/2 Ising System on the Bethe Lattice with Recursion Relations, Postgraduate, A.Alçı(Student), 2004
ALBAYRAK E., The Analysis of Spin-1 Blume-Emery-Griffiths Model by Using the Recursion Relations on the Bethe Lattice, Postgraduate, Ö.Özkan(Student), 2002

Published journal articles indexed by SCI, SSCI, and AHCI

- I. The Dzyaloshinskii-Moriya interaction effects in antiferromagnetic Heisenberg model
ALBAYRAK E.
International Journal of Modern Physics B, vol.38, no.6, 2024 (SCI-Expanded)

- II. **Magnetic behavior of a diatomic molecule with spin-1 on the Bethe lattice**
ALBAYRAK E.
European Physical Journal Plus, vol.139, no.1, 2024 (SCI-Expanded)
- III. **THE XYZ MODEL IN THE MEAN-FIELD APPROXIMATION IN TERMS OF PAULI SPIN MATRICES**
ALBAYRAK E.
LITHUANIAN JOURNAL OF PHYSICS, vol.64, no.1, pp.1-10, 2024 (SCI-Expanded)
- IV. **Antiferromagnetic spin-3/2 Heisenberg model with the effects of Dzyaloshinskii-Moriya interaction**
ALBAYRAK E.
Modern Physics Letters B, vol.37, no.35, 2023 (SCI-Expanded)
- V. **Critical and hysteresis behaviors for a hexagonal core-shell structure nanowire in the Blume-Emery-Griffiths model**
Goguin G. A., Oke T., Yessoufou R., ALBAYRAK E.
Physica A: Statistical Mechanics and its Applications, vol.624, 2023 (SCI-Expanded)
- VI. **Effective field theory study of bond dilution effects on transverse Ising antiferromagnet in a random longitudinal magnetic field**
Kple J., Hontinfinde F., ALBAYRAK E.
Chinese Journal of Physics, vol.83, pp.467-479, 2023 (SCI-Expanded)
- VII. **Phase diagrams of spin-1 Blume-Capel model with bimodal random crystal and trimodal random magnetic fields**
Yessoufou R. A. A., Seto G., Kpadonou A., ALBAYRAK E.
INDIAN JOURNAL OF PHYSICS, vol.97, no.5, pp.1445-1454, 2023 (SCI-Expanded)
- VIII. **THE +/- J DISTRIBUTION IN THE MIXED SPIN-1/2 AND 5/2 BLUME-CAPEL MODEL**
Albayrak E., Ozcan F. S.
THEORETICAL AND MATHEMATICAL PHYSICS, vol.214, no.3, pp.421-431, 2023 (SCI-Expanded)
- IX. **The XYZ model by the series expansion of exponentials for spin matrices in the mean-field approximation**
ALBAYRAK E.
European Physical Journal Plus, vol.138, no.3, 2023 (SCI-Expanded)
- X. **Magnetic properties of the quaternary alloy with the mixtures of integer and half-integer spins**
Kpadonou A., Yessoufou R., Houenou R., ALBAYRAK E.
Phase Transitions, vol.96, no.1, pp.43-57, 2023 (SCI-Expanded)
- XI. **Mixed-spin 1/2 and 3/2 core-shell structured triangular Ising nanowire on the Bethe lattice**
ALBAYRAK E.
International Journal of Modern Physics B, 2023 (SCI-Expanded)
- XII. **Critical behaviors of transverse Ising ferromagnet with random bond and random longitudinal magnetic field**
Kple J., Albayrak E., Oke T. D., Hontinfinde F.
EUROPEAN PHYSICAL JOURNAL PLUS, vol.137, pp.1-11, 2022 (SCI-Expanded)
- XIII. **Critical and hysteresis phenomena in the mixed spin-(3/2,1/2) anisotropic two-dimensional Heisenberg model: A Monte Carlo study**
Seto G., Yessoufou R. A. A., Kpadonou A., ALBAYRAK E.
PHYSICA A-STATISTICAL MECHANICS AND ITS APPLICATIONS, vol.604, 2022 (SCI-Expanded)
- XIV. **The spin-1 XYZ model with Dzyaloshinskii-Moriya interaction**
Albayrak E.
PHYSICA B-CONDENSED MATTER, vol.642, 2022 (SCI-Expanded)
- XV. **The numerical investigation of ferro-ferrimagnetic half-integer mixed spin ternary alloy: Monte-Carlo approach**
Houenou R., Yessoufou R., Kpadonou A., Albayrak E.
JOURNAL OF THE KOREAN PHYSICAL SOCIETY, vol.81, no.3, pp.247-257, 2022 (SCI-Expanded)
- XVI. **The Critical Properties of the Quaternary Alloy with Mixed Spin-(1,1/2,3/2,5/2): Mean Field Calculations**

- Yessoufou R., Kpadonou A., Houenou R., ALBAYRAK E.
 JOURNAL OF SUPERCONDUCTIVITY AND NOVEL MAGNETISM, vol.35, no.7, pp.2047-2056, 2022 (SCI-Expanded)
- XVII. **The magnetic properties of mixed spin-[Formula presented] anisotropic Heisenberg model in the Oguchi approximation**
 Seto G., Kpadonou A., Yessoufou R., Albayrak E.
Physica B: Condensed Matter, vol.634, 2022 (SCI-Expanded)
- XVIII. **Bimodal-random field Blume-Capel model in the cluster variation method**
 Yessoufou R. A. A., Albayrak E., Seto G.
CHINESE JOURNAL OF PHYSICS, vol.77, pp.2713-2723, 2022 (SCI-Expanded)
- XIX. **Random Crystal and Magnetic Field Effects on Hysteresis Loops and Phase Transition of Blume-Capel Model in Cluster Variation Method**
 Yessoufou R. A. A., Kpadonou A., Seto G., Albayrak E.
ACTA PHYSICA POLONICA A, vol.141, no.6, pp.634-641, 2022 (SCI-Expanded)
- XX. **Antiferromagnetic spin-1 XYZ model with the Dzyaloshinskii-Moriya interaction**
 Albayrak E.
European Physical Journal Plus, vol.137, no.5, 2022 (SCI-Expanded)
- XXI. **Random Crystal Field Effect on the Critical Properties of the Mixed Spin-(5/2,1/2) Anisotropic Heisenberg Model in the Oguchi Approximation**
 Seto G., Yessoufou R. A. A., Kpadonou A., Albayrak E.
SPIN, vol.12, 2022 (SCI-Expanded)
- XXII. **Random transverse single-ion anisotropies in the mixed spin-1 and spin-1/2 Blume-Capel quantum model: Mean-field theory calculations**
 Seto G., Yessoufou R., Kpadonou A., ALBAYRAK E.
Pramana - Journal of Physics, vol.96, no.1, 2022 (SCI-Expanded)
- XXIII. **Critical properties of the spin-1 Blume-Capel model with a random transverse crystal field**
 Kple J., Hontinfinde F., ALBAYRAK E.
Physica B: Condensed Matter, vol.626, 2022 (SCI-Expanded)
- XXIV. **Ferromagnetic Heisenberg model with the Dzyaloshinskii-Moriya interaction**
 ALBAYRAK E.
CONDENSED MATTER PHYSICS, vol.25, no.3, 2022 (SCI-Expanded)
- XXV. **Effects of the random single-ion anisotropy on the spin-1 Blume-Emery-Griffiths model**
 Kple J., Hontinfinde F., ALBAYRAK E.
Journal of Magnetism and Magnetic Materials, vol.537, 2021 (SCI-Expanded)
- XXVI. **Magnetic properties and phase diagrams of the mixed spin-(1/2,3/2) Ising-Heisenberg model in the mean field approximation**
 Seto G., Yessoufou R. A. A., Kpadonou A., ALBAYRAK E., Hontinfinde F.
MODERN PHYSICS LETTERS B, vol.35, no.32, 2021 (SCI-Expanded)
- XXVII. **The critical behaviors of a ferromagnetic-ferrimagnetic Ising ternary alloy with mixed spin-(1/2,3/2,5/2)**
 Houenou R., Yessoufou R., Kpadonou A., ALBAYRAK E.
EUROPEAN PHYSICAL JOURNAL PLUS, vol.136, no.10, 2021 (SCI-Expanded)
- XXVIII. **Random transverse crystal-field effects on the magnetic properties of the spin-3/2 Blume-Capel model**
 Kple J., Hontinfinde F., ALBAYRAK E.
PHYSICA B-CONDENSED MATTER, vol.619, 2021 (SCI-Expanded)
- XXIX. **Exact Recursion Relation Approach to Spin-1 Two-Leg Ladder**
 Albayrak E.
ACTA PHYSICA POLONICA A, vol.140, no.3, pp.273-280, 2021 (SCI-Expanded)
- XXX. **$\pm J$ Blume-Capel Model with external magnetic field in the cluster variation method**
 ALBAYRAK E.
Physica A: Statistical Mechanics and its Applications, vol.575, 2021 (SCI-Expanded)

- XXXI. **Random crystal field effects on antiferromagnetic spin-1 Blume-Capel model**
Albayrak E.
Modern Physics Letters B, vol.35, no.2150286, pp.2150286, 2021 (SCI-Expanded)
- XXXII. **Trimodal-random field Blume-Capel model**
ALBAYRAK E.
MODERN PHYSICS LETTERS B, vol.35, no.16, 2021 (SCI-Expanded)
- XXXIII. **The thermal properties of the mixed spin-1/2, 1, 3/2 Ising model on the Bethe lattice**
Kple J., Albayrak E., Hontinfinde F.
MODERN PHYSICS LETTERS B, vol.35, no.4, 2021 (SCI-Expanded)
- XXXIV. **Anisotropic Heisenberg model for the mixed spin-3/2 and spin-1/2 under random crystal field**
Takou D. S., Karimou M., Hontinfinde F., Albayrak E.
CONDENSED MATTER PHYSICS, vol.24, no.1, 2021 (SCI-Expanded)
- XXXV. **The random field Blume-Capel model on the Bethe lattice**
Albayrak E.
Chinese Journal of Physics, vol.68, pp.100-105, 2020 (SCI-Expanded)
- XXXVI. **The study of mixed spin-1 and spin-1/2: Entropy and isothermal entropy change**
ALBAYRAK E.
Physica A: Statistical Mechanics and its Applications, vol.559, 2020 (SCI-Expanded)
- XXXVII. **Staggered Quadrupolar Phase in the Bond-Diluted Spin-1 Blume-Emery-Griffiths Model**
Kple J., Hontinfinde F., Albayrak E.
INTERNATIONAL JOURNAL OF THEORETICAL PHYSICS, vol.59, no.12, pp.3915-3935, 2020 (SCI-Expanded)
- XXXVIII. **The critical behaviors of the mixed spin-1/2 and spin-2 model in a random crystal field**
Barut O., Yigit A., Albayrak E.
Journal of Magnetism and Magnetic Materials, vol.513, 2020 (SCI-Expanded)
- XXXIX. **Spin-1 Ising model with nearest and next-nearest bilinear and biquadratic interactions on the Bethe lattice**
ALBAYRAK E.
Physica B: Condensed Matter, vol.594, 2020 (SCI-Expanded)
- XL. **Mixed Spin-1/2 and 5/2 Blume-Capel Model on the Bethe Lattice in the $\pm J$ Distribution with an Adjusting Parameter**
ALBAYRAK E., Ozcan F. S.
Journal of Superconductivity and Novel Magnetism, vol.33, no.7, pp.2179-2188, 2020 (SCI-Expanded)
- XLI. **Antiferromagnetic Spin-3/2 Ising Model Under the Influence of Random Crystal Field**
Kaman R., Yigit A., ALBAYRAK E.
BRAZILIAN JOURNAL OF PHYSICS, vol.50, no.3, pp.245-253, 2020 (SCI-Expanded)
- XLII. **Triple mixed-spin Ising model**
ALBAYRAK E.
International Journal of Modern Physics B, vol.34, no.13, 2020 (SCI-Expanded)
- XLIII. **The Ising model with nearest- and next-nearest-neighbor interactions on the Bethe lattice: The exact recursion relations**
ALBAYRAK E.
MODERN PHYSICS LETTERS B, vol.34, no.10, 2020 (SCI-Expanded)
- XLIV. **Isothermal Entropy Change for the Spin-1 Blume-Capel Model on the Bethe Lattice**
Albayrak E.
INTERNATIONAL JOURNAL OF THEORETICAL PHYSICS, 2019 (SCI-Expanded)
- XLV. **The mixed spin-1/2 and spin-1 model with alternating coordination number**
ALBAYRAK E.
INTERNATIONAL JOURNAL OF MODERN PHYSICS B, vol.33, no.11, 2019 (SCI-Expanded)
- XLVI. **Phase diagrams and critical behaviours of the mixed spin-5/2 and spin-7/2 Ising system**
Karimou M., Yessoufou R. A., Ngantso G. D., Hontinfinde F., ALBAYRAK E.
CONDENSED MATTER PHYSICS, vol.22, no.3, 2019 (SCI-Expanded)

- XLVII. **The ferri-ferro-ferrimagnetic quaternary alloy**
 Albayrak E.
 PHYSICA B-CONDENSED MATTER, vol.552, pp.71-77, 2019 (SCI-Expanded)
- XLVIII. **The Amorphous Spin-1 Ising Model on the Bethe Lattice**
 ALBAYRAK E.
 ACTA PHYSICA POLONICA A, vol.134, no.6, pp.1176-1179, 2018 (SCI-Expanded)
- XLIX. **The Random Change of Coordination Number in the Blume-Capel Model**
 ALBAYRAK E.
 JOURNAL OF SUPERCONDUCTIVITY AND NOVEL MAGNETISM, vol.31, no.11, pp.3595-3599, 2018 (SCI-Expanded)
- L. **The random distribution of the coordination numbers in the mixed spin-1/2 and spin-2 Blume-Capel model**
 ALBAYRAK E.
 CHINESE JOURNAL OF PHYSICS, vol.56, no.5, pp.2291-2296, 2018 (SCI-Expanded)
- LI. **Phase diagrams of the random nearest-neighbor mixed spin-1/2 and spin-3/2 Blume-Capel model**
 ALBAYRAK E.
 MODERN PHYSICS LETTERS B, vol.32, no.27, 2018 (SCI-Expanded)
- LII. **The quaternary alloy on the Bethe lattice**
 ALBAYRAK E.
 INTERNATIONAL JOURNAL OF MODERN PHYSICS B, vol.32, no.21, 2018 (SCI-Expanded)
- LIII. **The magnetic phase diagrams of the ternary alloy AB(p)C(1-p) on the Bethe lattice**
 ALBAYRAK E.
 MODERN PHYSICS LETTERS B, vol.32, no.16, 2018 (SCI-Expanded)
- LIV. **The crystal-field dependency of sound attenuation in the spin-3/2 ising model**
 Cengiz T., ALBAYRAK E.
 CHINESE JOURNAL OF PHYSICS, vol.56, no.3, pp.844-852, 2018 (SCI-Expanded)
- LV. **Spin-1/2 Ising model on a AFM/FM two-layer Bethe lattice in a staggered magnetic field**
 KPLE J., MASSOU S., HONTINFINDE F., ALBAYRAK E.
 CHINESE JOURNAL OF PHYSICS, vol.56, no.3, pp.1252-1261, 2018 (SCI-Expanded)
- LVI. **Random crystal field effects on the integer and half-integer mixed-spin system**
 Yigit A., ALBAYRAK E.
 Superlattices and Microstructures, vol.117, pp.65-71, 2018 (SCI-Expanded)
- LVII. **The single-ion anisotropy effects in the mixed-spin ternary-alloy**
 ALBAYRAK E.
 Physics Letters, Section A: General, Atomic and Solid State Physics, vol.382, no.13, pp.880-886, 2018 (SCI-Expanded)
- LVIII. **The spin-1 Blume-Capel model on the Bethe lattice in $\pm J$ distribution with an adjustable parameter between FM and AFM phases**
 ALBAYRAK E.
 Chinese Journal of Physics, vol.56, no.2, pp.622-629, 2018 (SCI-Expanded)
- LIX. **Random Crystal Field Effects on the Mixed-Spin 1/2 and 5/2 Blume-Capel Model**
 ALBAYRAK E., KARIMOU M.
 INTERNATIONAL JOURNAL OF THEORETICAL PHYSICS, vol.57, no.3, pp.715-725, 2018 (SCI-Expanded)
- LX. **The Mixed Spin-1/2 and Spin-1 Ising-Heisenberg Model in the Mean-Field Approximation: a New Approach**
 ALBAYRAK E.
 CHINESE PHYSICS LETTERS, vol.35, no.3, 2018 (SCI-Expanded)
- LXI. **The phase diagrams of the mixed-spin ternary-alloy consisting of half-integer spins: Standard-random approach**
 ALBAYRAK E.
 Physica B: Condensed Matter, vol.531, pp.70-74, 2018 (SCI-Expanded)
- LXII. **The bimodal random crystal field and biquadratic exchange interaction effects for the spin-3/2 Ising**

- model on the Bethe lattice**
 KARIMOU M., ALBAYRAK E., TESSILIMY A., HONTINFINDE F., YESSOUFOU R.
 CHINESE JOURNAL OF PHYSICS, vol.55, no.6, pp.2371-2383, 2017 (SCI-Expanded)
- LXIII. **Anisotropic Heisenberg model for the mixed spin-2 and spin-1/2 in the Oguchi approximation on the simple cubic lattice**
 ALBAYRAK E.
 PHYSICA A-STATISTICAL MECHANICS AND ITS APPLICATIONS, vol.486, pp.161-167, 2017 (SCI-Expanded)
- LXIV. **Equal Random Crystal Field of Mixed Spin-1 and Spin-3/2 System**
 Yigit A., ALBAYRAK E.
 JOURNAL OF SUPERCONDUCTIVITY AND NOVEL MAGNETISM, vol.30, no.11, pp.3103-3108, 2017 (SCI-Expanded)
- LXV. **Bond Dilution Effects on Bethe Lattice the Spin-1 Blume-Capel Model**
 Albayrak E.
 COMMUNICATIONS IN THEORETICAL PHYSICS, vol.68, no.3, pp.361-365, 2017 (SCI-Expanded)
- LXVI. **Mixed Spin-2 and Spin-1/2 Anisotropic Heisenberg Model in the Oguchi Approximation**
 ALBAYRAK E.
 JOURNAL OF SUPERCONDUCTIVITY AND NOVEL MAGNETISM, vol.30, no.9, pp.2555-2561, 2017 (SCI-Expanded)
- LXVII. **The +/- J model for the mixed-spin 1/2 and 5/2 system**
 ALBAYRAK E., KARIMOU M.
 CHINESE JOURNAL OF PHYSICS, vol.55, no.4, pp.1361-1368, 2017 (SCI-Expanded)
- LXVIII. **Square Ising Nanowire on the Bethe Lattice**
 ALBAYRAK E.
 ACTA PHYSICA POLONICA A, vol.131, no.6, pp.1470-1473, 2017 (SCI-Expanded)
- LXIX. **Magnetic phase diagrams of Fe-Mn-Al alloy on the Bethe lattice**
 ALBAYRAK E.
 CHINESE PHYSICS B, vol.26, no.2, 2017 (SCI-Expanded)
- LXX. **+/- J Blume-Capel model in the cluster variation method**
 ALBAYRAK E.
 CHINESE JOURNAL OF PHYSICS, vol.54, no.6, pp.978-982, 2016 (SCI-Expanded)
- LXXI. **The Random J-Model with Biquadratic Interaction**
 Yigit A., ALBAYRAK E.
 JOURNAL OF SUPERCONDUCTIVITY AND NOVEL MAGNETISM, vol.29, no.10, pp.2535-2541, 2016 (SCI-Expanded)
- LXXII. **The +/- J model for the mixed-spin 1/2 and 3/2 Blume-Capel model**
 ALBAYRAK E.
 PHYSICA B-CONDENSED MATTER, vol.494, pp.91-95, 2016 (SCI-Expanded)
- LXXIII. **Core-shell structured square mixed-spin 1 and 1/2 Ising nanowire on the Bethe lattice**
 ALBAYRAK E.
 JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS, vol.401, pp.532-538, 2016 (SCI-Expanded)
- LXXIV. **Core-shell structured triangular Ising nanowire on the Bethe lattice**
 ALBAYRAK E.
 PHYSICS LETTERS A, vol.380, no.3, pp.458-464, 2016 (SCI-Expanded)
- LXXV. **Random Blume-Emery-Griffiths model on the Bethe lattice**
 Albayrak E.
 PHYSICA B-CONDENSED MATTER, vol.479, pp.107-111, 2015 (SCI-Expanded)
- LXXVI. **The phase diagrams of the +/- K model on the Bethe lattice**
 Albayrak E.
 JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS, vol.386, pp.20-24, 2015 (SCI-Expanded)
- LXXVII. **The Effects of the Random Transverse Crystal Field on the Spin-1 Model**
 Albayrak E.
 ACTA PHYSICA POLONICA A, vol.127, no.3, pp.818-822, 2015 (SCI-Expanded)
- LXXVIII. **+/- J model on the Bethe lattice with crystal field interaction**
 Albayrak E.

- JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS, vol.355, pp.18-21, 2014 (SCI-Expanded)
- LXXIX. **Phase diagrams of the spin-3/2 random transverse crystal field model**
Albayrak E.
PHYSICA SCRIPTA, vol.89, no.1, 2014 (SCI-Expanded)
- LXXX. **Phase diagrams of spin-3/2 Ising model in the presence of random crystal field within the effective field theory based on two approximations**
Yigit A., ALBAYRAK E.
CHINESE PHYSICS B, vol.22, no.10, 2013 (SCI-Expanded)
- LXXXI. **Mixed spin-1/2 and spin-3/2 Ising model with random crystal field distribution**
Yigit A., ALBAYRAK E.
PHYSICA A-STATISTICAL MECHANICS AND ITS APPLICATIONS, vol.392, no.19, pp.4216-4221, 2013 (SCI-Expanded)
- LXXXII. **Spin-1 Blume-Capel model with longitudinal random crystal and transverse magnetic fields: A mean-field approach**
Albayrak E.
CHINESE PHYSICS B, vol.22, no.7, 2013 (SCI-Expanded)
- LXXXIII. **THE QUANTUM REFRIGERATOR IN A TWO-QUBIT XXZ HEISENBERG MODEL**
Albayrak E.
INTERNATIONAL JOURNAL OF MODERN PHYSICS B, vol.27, no.13, 2013 (SCI-Expanded)
- LXXXIV. **The mixed spin-1/2 and spin-1 Blume-Capel model with random crystal field on the Bethe lattice: Two approaches**
Albayrak E.
SOLID STATE COMMUNICATIONS, vol.159, pp.76-78, 2013 (SCI-Expanded)
- LXXXV. **Bimodal random crystal field distribution effects on the ferrimagnetic mixed spin-1/2 and spin-3/2 Blume-Capel model**
Yigit A., ALBAYRAK E.
JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS, vol.329, pp.125-128, 2013 (SCI-Expanded)
- LXXXVI. **THE ENTANGLED QUANTUM HEAT ENGINE IN THE VARIOUS HEISENBERG MODELS FOR A TWO-QUBIT SYSTEM**
Albayrak E.
INTERNATIONAL JOURNAL OF QUANTUM INFORMATION, vol.11, no.2, 2013 (SCI-Expanded)
- LXXXVII. **Spin-1 Blume-Capel model with random crystal field effects**
Albayrak E.
PHYSICA A-STATISTICAL MECHANICS AND ITS APPLICATIONS, vol.392, no.4, pp.552-557, 2013 (SCI-Expanded)
- LXXXVIII. **Phase diagrams of the spin-2 Ising model in the presence of a quenched diluted crystal field distribution**
Yigit A., ALBAYRAK E.
CHINESE PHYSICS B, vol.21, no.11, 2012 (SCI-Expanded)
- LXXXIX. **Trilayer Bethe lattices in the form of spin-(1/2,3/2,1/2)**
ALBAYRAK E., Ak F.
PHYSICA B-CONDENSED MATTER, vol.407, no.13, pp.2642-2649, 2012 (SCI-Expanded)
- XC. **The crystal field effects on sound attenuation for a spin-1 Ising model on the Bethe lattice**
Cengiz T., ALBAYRAK E.
JOURNAL OF STATISTICAL MECHANICS-THEORY AND EXPERIMENT, 2012 (SCI-Expanded)
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- LX. **Coarse Grid Finite Difference Solution of Maxwell s Equations for a Model of An Avalanche Photodischarge Device**
ALBAYRAK E., Martin W.

Other Publications

- I. **ERRATUM: "Critical and Compensation Temperatures of The Ising Bilayer System Consisting of Spin-1/2 and Spin-1 Atoms", J. Stat. Phys. 130 (2008) 829**
ALBAYRAK E.
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Supported Projects

- ALBAYRAK E., Project Supported by Higher Education Institutions, Dörtlü Alaşımların Bethe Kafesi Üzerinde Tasarımı ve Faz Diyagramları, 2018 - 2019
- ALBAYRAK E., Project Supported by Higher Education Institutions, Oguchi Yaklaşımında Karma Spin-2 ve Spin-12 Anisotropic Heisenberg Modelinin Manyetik Faz Diyagramları, 2016 - 2017
- ALBAYRAK E., CENGİZ T., Project Supported by Higher Education Institutions, Spin-3/2 Ising Modelinde Ses Dalgalarındaki Söñümün Bethe Kafesindeki İncelenmesi, 2011 - 2013
- ALBAYRAK E., Project Supported by Other Official Institutions, Eşit ve eşit olmayan kristal Alan Varlığında Karma Spin-1 ve Spin-5/2 Ising Modelinin Bethe Kafesi Üzerinde Kritik Özelliklerinin Araştırılması, 2011 - 2013
- ALBAYRAK E., BULUT T., Project Supported by Higher Education Institutions, İKİ TABAKALI BETHE KAFESİNDE KARMA SPİN-S ($S = 1/2, 1, 3/2$) VE SPİN-? ($? = 1, 3/2, 1/2$) ISİNG MODELİNİN KRİSTAL ALAN YOKLUĞUNDA KESİN FAZ DİAGRAMLARI, 2007 - 2009
- ALBAYRAK E., YILMAZ Ş., Project Supported by Higher Education Institutions, İKİ TABAKALI BETHE KAFESİNDE SPİN-3/2 ISİNG MODELİNİN KRİSTAL ALAN VARLIĞINDA VE YOKLUĞUNDA KESİN FAZ DİAGRAMLARI, 2006 - 2008
- ALBAYRAK E., AKKAYA Ş., Project Supported by Higher Education Institutions, İKİ TABAKALI BETHE KAFESİNDE SPİN-2 ISİNG MODELLİNİN KRİSTAL ALAN VARLIĞINDA VE YOKLUĞUNDA KESİN FAZ DİAGRAMLARI, 2006 - 2008
- ALBAYRAK E., YİĞİT A., Project Supported by Higher Education Institutions, KARMA SPİN-2 SPİN-5/2 BLUME-CAPEL ISİNG SİSTEMİNİN BETHE KAFESİ ÜZERİNDE İNCELENEREK SİSTEMİN FAZ DİYAGRAMLARININ ELDE EDİLMESİ, 2005 - 2006

Metrics

- Publication: 227
Citation (WoS): 1448
Citation (Scopus): 1447
H-Index (WoS): 21
H-Index (Scopus): 21

Congress and Symposium Activities

- The Effective Field Treatment of Spin-3/2 Ising Model with a Special Random Crystal Field Distribution, Attendee, İstanbul, Turkey, 2012
- The Effect of External Magnetic Field on Sound Attenuation of the Spin-3/2 Ising Model (POSTER), Attendee, Amsterdam, Netherlands, 2012
- The Bethe Lattice Treatment of Ultrasonic Attenuation (POSTER), Attendee, Amsterdam, Netherlands, 2012
- The Critical Properties of Mixed Spin-1 and Spin-5/2 with Equal and Unequal Crystal Fields (POSTER), Attendee, Amsterdam, Netherlands, 2012
- The Mixed-spin Ternary-alloy in the Form of AB_pC_{1-p} on the Bethe Lattice, Attendee, İstanbul, Turkey, 2011

The Sound Attenuation for the Spin-1 Ising Model on the Bethe Lattice, Attendee, İstanbul, Turkey, 2011
Bethe Lattice Study of the Mixed Spin-2 and Spin-5/2 Ising Model, Attendee, İstanbul, Turkey, 2011
The Crystal Field Effects on Temperature-Dependent Phase Diagrams of the Spin-3/2 Ising Model with FM/AFM Interactions on a Two-Layer Bethe Lattice, Attendee, İstanbul, Turkey, 2010
The crystal field effects in the spin-1 Ising model with FM/AFM interactions on a two-layer Bethe lattice, Attendee, İstanbul, Turkey, 2010
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The FM/AFM Bilayer Bethe Lattice with FM or AFM Interlayer Interactions (POSTER), Attendee, Bodrum, Turkey, 2009
The Spin-3/2 Ising Model AFM/AFM Two-Layer Lattice with Crystal Field, Attendee, Bodrum, Turkey, 2009
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Mixed Spin-3/2 and Spin-5/2 Ising System on the Bethe Lattice, Attendee, Malatya, Turkey, 2007
Mixed Spin-2 and Spin-5/2 Blume-Emery-Griffiths Model (POSTER), Attendee, Malatya, Turkey, 2007
The Crystal Field Effects on a Bilayer Bethe Lattice, Attendee, İstanbul, Turkey, 2006
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The Exact Phase Diagrams Of Spin-3/2 Ising Model With Crystal-Field Interactions On A Bilayer Bethe Lattice, Attendee, İstanbul, Turkey, 2006
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The Quantum Transverse Spin-2 Ising Model with a Bimodal Random-Field in the Pair Approximation, Attendee, İstanbul, Turkey, 2005
Trimodal Random-Field Spin-3/2 Ising systems in a transverse field, Attendee, Bodrum, Turkey, 2004
Mixed Spin-1/2 and spin-1 Blume-Capel model on the Bethe Lattice using the recursion method, Attendee, İstanbul, Turkey, 2002
The Spin-3/2 Blume-Emery-Griffiths model on the Bethe Lattice using the recursion method, Attendee, İstanbul, Turkey, 2001
The Spin-3/2 Blume-Capel model on the Bethe Lattice using the recursion method, Attendee, İstanbul, Turkey, 2000
Phase diagram of the Blume-Emery-Griffiths model on the simple cubic lattice calculated by the linear chain approximation, Attendee, İstanbul, Turkey, 1999
Phase diagrams of the Blume-Emery-Griffiths model calculated by the mean-field approximation including the transverse

fields effects, Attendee, İstanbul, Turkey, 1998

Coarse Grid Finite Difference Solution of Maxwell's Equations for a Model of An Avalanche Photodischarge Device (POSTER), Attendee, New England, United States Of America, 1997

Scholarships

Turkish Ministry of Education Scholarship for the Ph. D. Degree in the USA., Ministry of Education, 1993 - Continues
Turkish Ministry of Education Scholarship for the M.Sc Degree in the USA., Ministry of Education, 1990 - Continues

Awards

ALBAYRAK E., Erciyes University Scientific Publication Honorary Reward, Erciyes Üniversitesi, September 2007

ALBAYRAK E., Erciyes University Scientific Publication Honorary Reward, Erciyes Üniversitesi, September 2002

Non Academic Experience

Erciyes Üniversitesi