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Eğitim Bilgileri

Doktora, University of Massachusetts Lowell, Science Faculty, Physics/ General Physics, Amerika Birleşik Devletleri 1993 - 1997

Yüksek Lisans, University of Missouri-Columbia, Science Faculty, Physics/ General Physics, Amerika Birleşik Devletleri 1991 - 1993

Lisans, Erciyes Üniversitesi, Fen-Edebiyat Fakültesi, Fizik, Türkiye 1986 - 1990

Yabancı Diller

İngilizce, C1 İleri

Sertifika, Kurs ve Eğitimler

Eğitim Yönetimi ve Planlama, Eğitim Formasyonu, Erciyes Üniversitesi, 1990

Yaptığı Tezler

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

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

Araştırma Alanları

Fizik, Genel Fizik, Fiziğin Matematiksel Yöntemleri, Yoğun Madde 1:Yapısal, Mekanik ve Termal Özellikler , Durum yoğunluğu, faz dengesi ve faz geçişleri, Yoğun Madde 2:Elektronik Yapı, Elektrik, Manyetik ve Optik Özellikler, Manyetik özellikler ve malzemeler, Temel Bilimler

Akademik Unvanlar / Görevler

Prof. Dr., Erciyes Üniversitesi, Fen Fakültesi, Fizik, 2009 - Devam Ediyor

Doç. Dr., Erciyes Üniversitesi, Fen Fakültesi, Fizik, 2003 - 2009

Yrd. Doç. Dr., Erciyes Üniversitesi, Fen Fakültesi, Fizik, 1998 - 2003

Öğretim Görevlisi Dr., Erciyes Üniversitesi, Fen Fakültesi, Fizik, 1997 - 1998

Araştırma Görevlisi, University of Massachusetts Lowell, Science Faculty, Physics, 1996 - 1997

Araştırma Görevlisi, University of Missouri-Columbia, Science Faculty, Physics, 1992 - 1993

Akademik İdari Deneyim

Erciyes Üniversitesi, 2011 - 2013

Erciyes Üniversitesi, 2009 - 2013

Erciyes Üniversitesi, 2009 - 2012

Erciyes Üniversitesi, 2009 - 2012

Verdiği Dersler

Dalgalar ve Titreşimler, Lisans, 2011 - 2012

Kuantum Mekaniği I, Yüksek Lisans, 2008 - 2009

Yönetilen Tezler

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, Doktora, Ş.Akkaya(Öğrenci), 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, Yüksek Lisans, T.Cengiz(Öğrenci), 2010

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ALBAYRAK E., The Phase Diagrams of Spin-3/2 Ising Models for the AFM/AFM ve FM/AFM Cases on Two-layer Bethe Lattices, Doktora, A.Yiğit(Öğrenci), 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, Yüksek Lisans, T.Bulut(Öğrenci), 2008

ALBAYRAK E., The Exact Phase Diagrams of the Spin-2 Ising model on a Two-Layer Bethe Lattice with and without Crystal Fields, Yüksek Lisans, Ş.Akkaya(Öğrenci), 2007

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ALBAYRAK E., The Critical Behaviors of the mixed spin-1 and spin-2 Blume-Capel Ising Ferromagnetic System, Yüksek Lisans, A.Yiğit(Öğrenci), 2006

ALBAYRAK E., The Analysis of mixed-spin spin-1/2 and spin-3/2 Ising System on the Bethe Lattice with Recursion Relations, Yüksek Lisans, A.Alçı(Öğrenci), 2004

ALBAYRAK E., The Analysis of Spin-1 Blume-Emery-Griffiths Model by Using the Recursion Relations on the Bethe Lattice, Yüksek Lisans, Ö.Özkan(Öğrenci), 2002

SCI, SSCI ve AHCI İndekslerine Giren Dergilerde Yayınlanan Makaleler

I. Hexagonal core-shell structure nanowire with high spins of spin-3/2 and spin-5/2

Karimou M., Yessoufou R. A., Albayrak E.

CONDENSED MATTER PHYSICS, cilt.27, sa.2, ss.1-11, 2024 (SCI-Expanded)

- II. **Magnetic behaviors of diatomic molecules with mixed spin-1 and spin-1/2 on the Bethe lattice**
ALBAYRAK E.
Chinese Journal of Physics, cilt.89, ss.1545-1554, 2024 (SCI-Expanded)
- III. **Monte Carlo and mean-field studies on the magnetic properties of a hexagonal Ising nanowire with core-shell structure in the Blume–Emery–Griffiths model**
Aziza Goguin G., Yessoufou R., Oke T., ALBAYRAK E.
Journal of Magnetism and Magnetic Materials, cilt.598, 2024 (SCI-Expanded)
- IV. **The Dzyaloshinskii-Moriya interaction effects in antiferromagnetic Heisenberg model**
ALBAYRAK E.
International Journal of Modern Physics B, cilt.38, sa.6, 2024 (SCI-Expanded)
- V. **The XZ Model in the Mean-Field Approximation with Exponential Pauli Spin Matrices**
ALBAYRAK E.
SPIN, cilt.14, sa.1, 2024 (SCI-Expanded)
- VI. **Magnetic behavior of a diatomic molecule with spin-1 on the Bethe lattice**
ALBAYRAK E.
European Physical Journal Plus, cilt.139, sa.1, 2024 (SCI-Expanded)
- VII. **THE XYZ MODEL IN THE MEAN-FIELD APPROXIMATION IN TERMS OF PAULI SPIN MATRICES**
ALBAYRAK E.
LITHUANIAN JOURNAL OF PHYSICS, cilt.64, sa.1, ss.1-10, 2024 (SCI-Expanded)
- VIII. **SPIN-1 ANTIFERROMAGNETIC HEISENBERG MODEL INCLUDING DZYALOSHINSKII-MORIYA INTERACTION**
ALBAYRAK E.
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- IX. **Antiferromagnetic spin-3/2 Heisenberg model with the effects of Dzyaloshinskii-Moriya interaction**
ALBAYRAK E.
Modern Physics Letters B, cilt.37, sa.35, 2023 (SCI-Expanded)
- X. **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, cilt.624, 2023 (SCI-Expanded)
- XI. **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, cilt.83, ss.467-479, 2023 (SCI-Expanded)
- XII. **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, cilt.97, sa.5, ss.1445-1454, 2023 (SCI-Expanded)
- XIII. **THE +/- J DISTRIBUTION IN THE MIXED SPIN-1/2 AND 5/2 BLUME-CAPEL MODEL**
Albayrak E., Ozcan F. S.
THEORETICAL AND MATHEMATICAL PHYSICS, cilt.214, sa.3, ss.421-431, 2023 (SCI-Expanded)
- XIV. **The XYZ model by the series expansion of exponentials for spin matrices in the mean-field approximation**
ALBAYRAK E.
European Physical Journal Plus, cilt.138, sa.3, 2023 (SCI-Expanded)
- XV. **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, cilt.96, sa.1, ss.43-57, 2023 (SCI-Expanded)
- XVI. **Mixed-spin 1/2 and 3/2 core-shell structured triangular Ising nanowire on the Bethe lattice**
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- XVII. **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, cilt.137, ss.1-11, 2022 (SCI-Expanded)
- XVIII. **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, cilt.604, 2022 (SCI-Expanded)
- XIX. **The spin-1 XYZ model with Dzyaloshinskii-Moriya interaction**
Albayrak E.
PHYSICA B-CONDENSED MATTER, cilt.642, 2022 (SCI-Expanded)
- XX. **The numerical investigation of ferro-ferrimagnetic half-integer mixed spin ternary alloy: Monte-Carlo approach**
Houenou R, Yessoufou R., Kpadonou A., Albayrak E.
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- XXI. **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, cilt.35, sa.7, ss.2047-2056, 2022 (SCI-Expanded)
- XXII. **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, cilt.141, sa.6, ss.634-641, 2022 (SCI-Expanded)
- XXIII. **The magnetic properties of mixed spin-[Formula presented] anisotropic Heisenberg model in the Oguchi approximation**
Seto G., Kpadonou A., Yessoufou R., Albayrak E.
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- XXIV. **Bimodal-random field Blume-Capel model in the cluster variation method**
Yessoufou R. A. A., Albayrak E., Seto G.
CHINESE JOURNAL OF PHYSICS, cilt.77, ss.2713-2723, 2022 (SCI-Expanded)
- XXV. **Antiferromagnetic spin-1 XYZ model with the Dzyaloshinskii-Moriya interaction**
Albayrak E.
European Physical Journal Plus, cilt.137, sa.5, 2022 (SCI-Expanded)
- XXVI. **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, cilt.12, 2022 (SCI-Expanded)
- XXVII. **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, cilt.96, sa.1, 2022 (SCI-Expanded)
- XXVIII. **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, cilt.626, 2022 (SCI-Expanded)
- XXIX. **Ferromagnetic Heisenberg model with the Dzyaloshinskii-Moriya interaction**
ALBAYRAK E.
CONDENSED MATTER PHYSICS, cilt.25, sa.3, 2022 (SCI-Expanded)
- XXX. **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.
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- XXXI. **Effects of the random single-ion anisotropy on the spin-1 Blume-Emery-Griffiths model**
Kple J., Hontinfinde F., ALBAYRAK E.
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- XXXII. **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.
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- XXXIII. **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, cilt.619, 2021 (SCI-Expanded)
- XXXIV. **Exact Recursion Relation Approach to Spin-1 Two-Leg Ladder**
Albayrak E.
ACTA PHYSICA POLONICA A, cilt.140, sa.3, ss.273-280, 2021 (SCI-Expanded)
- XXXV. **$\pm J$ Blume-Capel Model with external magnetic field in the cluster variation method**
ALBAYRAK E.
Physica A: Statistical Mechanics and its Applications, cilt.575, 2021 (SCI-Expanded)
- XXXVI. **Trimodal-random field Blume-Capel model**
ALBAYRAK E.
MODERN PHYSICS LETTERS B, cilt.35, sa.16, 2021 (SCI-Expanded)
- XXXVII. **Random crystal field effects on antiferromagnetic spin-1 Blume-Capel model**
Albayrak E.
Modern Physics Letters B, cilt.35, sa.2150286, ss.2150286, 2021 (SCI-Expanded)
- XXXVIII. **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, cilt.35, sa.4, 2021 (SCI-Expanded)
- XXXIX. **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, cilt.24, sa.1, 2021 (SCI-Expanded)
- XL. **The random field Blume-Capel model on the Bethe lattice**
Albayrak E.
Chinese Journal of Physics, cilt.68, ss.100-105, 2020 (SCI-Expanded)
- XLI. **The study of mixed spin-1 and spin-1/2: Entropy and isothermal entropy change**
ALBAYRAK E.
Physica A: Statistical Mechanics and its Applications, cilt.559, 2020 (SCI-Expanded)
- XLII. **Staggered Quadrupolar Phase in the Bond-Diluted Spin-1 Blume-Emery-Griffiths Model**
Kple J., Hontinfinde F., Albayrak E.
INTERNATIONAL JOURNAL OF THEORETICAL PHYSICS, cilt.59, sa.12, ss.3915-3935, 2020 (SCI-Expanded)
- XLIII. **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, cilt.513, 2020 (SCI-Expanded)
- XLIV. **Spin-1 Ising model with nearest and next-nearest bilinear and biquadratic interactions on the Bethe lattice**
ALBAYRAK E.
Physica B: Condensed Matter, cilt.594, 2020 (SCI-Expanded)
- XLV. **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, cilt.33, sa.7, ss.2179-2188, 2020 (SCI-Expanded)
- XLVI. **Antiferromagnetic Spin-3/2 Ising Model Under the Influence of Random Crystal Field**
Kaman R., Yigit A., ALBAYRAK E.

- BRAZILIAN JOURNAL OF PHYSICS, cilt.50, sa.3, ss.245-253, 2020 (SCI-Expanded)
- XLVII. **Triple mixed-spin Ising model**
ALBAYRAK E.
International Journal of Modern Physics B, cilt.34, sa.13, 2020 (SCI-Expanded)
- XLVIII. **The Ising model with nearest- and next-nearest-neighbor interactions on the Bethe lattice: The exact recursion relations**
ALBAYRAK E.
MODERN PHYSICS LETTERS B, cilt.34, sa.10, 2020 (SCI-Expanded)
- XLIX. **Isothermal Entropy Change for the Spin-1 Blume-Capel Model on the Bethe Lattice**
Albayrak E.
INTERNATIONAL JOURNAL OF THEORETICAL PHYSICS, 2019 (SCI-Expanded)
- L. **The mixed spin-1/2 and spin-1 model with alternating coordination number**
ALBAYRAK E.
INTERNATIONAL JOURNAL OF MODERN PHYSICS B, cilt.33, sa.11, 2019 (SCI-Expanded)
- LI. **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, cilt.22, sa.3, 2019 (SCI-Expanded)
- LII. **The ferri-ferro-ferrimagnetic quaternary alloy**
Albayrak E.
PHYSICA B-CONDENSED MATTER, cilt.552, ss.71-77, 2019 (SCI-Expanded)
- LIII. **The Amorphous Spin-1 Ising Model on the Bethe Lattice**
ALBAYRAK E.
ACTA PHYSICA POLONICA A, cilt.134, sa.6, ss.1176-1179, 2018 (SCI-Expanded)
- LIV. **The Random Change of Coordination Number in the Blume-Capel Model**
ALBAYRAK E.
JOURNAL OF SUPERCONDUCTIVITY AND NOVEL MAGNETISM, cilt.31, sa.11, ss.3595-3599, 2018 (SCI-Expanded)
- LV. **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, cilt.56, sa.5, ss.2291-2296, 2018 (SCI-Expanded)
- LVI. **Phase diagrams of the random nearest-neighbor mixed spin-1/2 and spin-3/2 Blume-Capel model**
ALBAYRAK E.
MODERN PHYSICS LETTERS B, cilt.32, sa.27, 2018 (SCI-Expanded)
- LVII. **The quaternary alloy on the Bethe lattice**
ALBAYRAK E.
INTERNATIONAL JOURNAL OF MODERN PHYSICS B, cilt.32, sa.21, 2018 (SCI-Expanded)
- LVIII. **The magnetic phase diagrams of the ternary alloy AB(p)C(1-p) on the Bethe lattice**
ALBAYRAK E.
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- LIX. **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.
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- LX. **The crystal-field dependency of sound attenuation in the spin-3/2 ising model**
Cengiz T., ALBAYRAK E.
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- LXI. **Random crystal field effects on the integer and half-integer mixed-spin system**
Yigit A., ALBAYRAK E.
Superlattices and Microstructures, cilt.117, ss.65-71, 2018 (SCI-Expanded)
- LXII. **The single-ion anisotropy effects in the mixed-spin ternary-alloy**
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- LXIII. **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, cilt.56, sa.2, ss.622-629, 2018 (SCI-Expanded)
- LXIV. **The Mixed Spin-1/2 and Spin-1 Ising-Heisenberg Model in the Mean-Field Approximation: a New Approach**
ALBAYRAK E.
CHINESE PHYSICS LETTERS, cilt.35, sa.3, 2018 (SCI-Expanded)
- LXV. **Random Crystal Field Effects on the Mixed-Spin 1/2 and 5/2 Blume-Capel Model**
ALBAYRAK E., KARIMOU M.
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- LXVI. **The phase diagrams of the mixed-spin ternary-alloy consisting of half-integer spins: Standard-random approach**
ALBAYRAK E.
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- LXVII. **The bimodal random crystal field and biquadratic exchange interaction effects for the spin-3/2 Ising model on the Bethe lattice**
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- LXVIII. **Anisotropic Heisenberg model for the mixed spin-2 and spin-1/2 in the Oguchi approximation on the simple cubic lattice**
ALBAYRAK E.
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- LXIX. **Equal Random Crystal Field of Mixed Spin-1 and Spin-3/2 System**
Yigit A., ALBAYRAK E.
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- LXX. **Bond Dilution Effects on Bethe Lattice the Spin-1 Blume-Capel Model**
Albayrak E.
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- LXXI. **Mixed Spin-2 and Spin-1/2 Anisotropic Heisenberg Model in the Oguchi Approximation**
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- LXXII. **The $\pm J$ model for the mixed-spin 1/2 and 5/2 system**
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- LXXIII. **Square Ising Nanowire on the Bethe Lattice**
ALBAYRAK E.
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- LXXIV. **Magnetic phase diagrams of Fe-Mn-Al alloy on the Bethe lattice**
ALBAYRAK E.
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- LXXV. **$\pm J$ Blume-Capel model in the cluster variation method**
ALBAYRAK E.
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- LXXVI. **The Random J-Model with Biquadratic Interaction**
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- LXXVII. **The $\pm J$ model for the mixed-spin 1/2 and 3/2 Blume-Capel model**
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- LXXVIII. **Core-shell structured square mixed-spin 1 and 1/2 Ising nanowire on the Bethe lattice**

- ALBAYRAK E.
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- LXXIX. **Core-shell structured triangular Ising nanowire on the Bethe lattice**
ALBAYRAK E.
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- LXXX. **Random Blume-Emery-Griffiths model on the Bethe lattice**
Albayrak E.
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- LXXXI. **The phase diagrams of the +/- K model on the Bethe lattice**
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- LXXXII. **The Effects of the Random Transverse Crystal Field on the Spin-1 Model**
Albayrak E.
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- LXXXIII. **+/- J model on the Bethe lattice with crystal field interaction**
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- LXXXIV. **Phase diagrams of the spin-3/2 random transverse crystal field model**
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- LXXXV. **Phase diagrams of spin-3/2 Ising model in the presence of random crystal field within the effective field theory based on two approximations**
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