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Publons / Web Of Science ResearcherID: A-3110-2016

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Education Information

Doctorate, Erciyes University, Fen Bilimleri, Fizik, Turkey 2005 - 2009

Research Areas

Physics, Atomic and Molecular Physics, Nuclear physics, Natural Sciences

Academic Titles / Tasks

Professor, Akdeniz University, Faculty of Science, Department of Physics, 2017 - Continues

Associate Professor, Akdeniz University, Faculty of Science, Department of Physics, 2013 - 2017

Assistant Professor, Akdeniz University, Faculty of Science, Department of Physics, 2010 - 2013

Academic and Administrative Experience

Head of Department, Akdeniz University, Faculty Of Science, Department of Physics, 2014 - 2023

Fakülte Kurulu Üyesi, Akdeniz University, Faculty Of Science, Department of Physics, 2017 - 2020

Fakülte Yönetim Kurulu Üyesi, Akdeniz University, Faculty Of Science, Department of Physics, 2017 - 2020

Head of Department, Akdeniz University, Faculty Of Science, Fizik, 2017 - 2020

Akdeniz University, 2012 - 2016

Advising Theses

Bayrak O., Radyasyon tedavilerinde kullanılan ağır iyonların X-ışınına karşı üstünlüklerinin radyobiyojik ve dozimetrik parametreler üzerinden araştırılması, Doctorate, N.İLKER(Student), 2020

Bayrak O., Genelleştirilmiş Woods-Saxon Potansiyel Alanında Spin-0 Parçacıklarının Davranışı, Postgraduate, D.Şahin(Student), 2019

BAYRAK O., Düşük Enerji Bölgesinde 156Gd Çekirdeğinin Teorik ve Deneysel İncelenmesi, Doctorate, E.AÇIKSÖZ(Student), 2016

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **The effect of position-dependent effective mass on the optical properties of a spherical quantum dot confined in inverse square root truncated and deformed exponential potential**
BAYRAK K., KAYA D., BAYRAK O.
European Physical Journal Plus, vol.138, no.6, 2023 (SCI-Expanded)
- II. **The total absorption coefficient and refractive index change of a spherical quantum dot in the confinement radial potential**
Kaya D., Yücel M. B., Bayrak O.
PHYSICA B: CONDENSED MATTER, vol.648, no.2023, pp.1-8, 2023 (SCI-Expanded)
- III. **Clustering effect in description of the alpha and heavier decay half-life**
Dagtas R., BAYRAK O.
Physica Scripta, vol.97, no.10, 2022 (SCI-Expanded)
- IV. **NEW PREDICTIONS ON ALPHA DECAY HALF-LIVES OF SUPERHEAVY NUCLEI**
Dagtas R., BAYRAK O.
Acta Physica Polonica B, vol.53, no.9, 2022 (SCI-Expanded)
- V. **Pocket resonances in low-energy antineutron reactions with nuclei**
Lee T., BAYRAK O., Wong C.
PHYSICS LETTERS B, vol.817, 2021 (SCI-Expanded)
- VI. **Bound state solutions of the Klein-Gordon equation with energy-dependent potentials**
LÜTFÜOĞLU B. C., İkot A. N., Karakoc M., Osobonye G. T., Ngiangia A. T., Bayrak O.
MODERN PHYSICS LETTERS A, vol.36, no.4, 2021 (SCI-Expanded)
- VII. **A new simple model for the alpha-decay**
Bayrak O.
JOURNAL OF PHYSICS G-NUCLEAR AND PARTICLE PHYSICS, vol.47, no.2, 2020 (SCI-Expanded)
- VIII. **Investigation of deformation effects on the decay properties of C-12 + alpha Cluster states in O-16**
Soylu A., Koyuncu F., Cohan A., BAYRAK O., Freer M.
ANNALS OF PHYSICS, vol.391, pp.263-277, 2018 (SCI-Expanded)
- IX. **Binary cluster model calculations for Ne-20 and Ti-44 nuclei**
Koyuncu F., Soylu A., BAYRAK O.
MODERN PHYSICS LETTERS A, vol.32, no.9, 2017 (SCI-Expanded)
- X. **Binding energy of the donor impurities in GaAs-Ga_{1-x}Al_xAs quantum well wires with Morse potential in the presence of electric and magnetic fields**
Aciksoz E., BAYRAK O., Soylu A.
CHINESE PHYSICS B, vol.25, no.10, 2016 (SCI-Expanded)
- XI. **Scattering, bound, and quasi-bound states of the generalized symmetric Woods-Saxon potential**
LÜTFÜOĞLU B. C., Akdeniz F., BAYRAK O.
JOURNAL OF MATHEMATICAL PHYSICS, vol.57, no.3, 2016 (SCI-Expanded)
- XII. **Exact Analytical Solution of the Klein-Gordon Equation in the Generalized Woods-Saxon Potential**
BAYRAK O., SAHIN D.
COMMUNICATIONS IN THEORETICAL PHYSICS, vol.64, no.3, pp.259-262, 2015 (SCI-Expanded)
- XIII. **alpha-alpha folding cluster model for alpha-radioactivity**
Soylu A., BAYRAK O.
EUROPEAN PHYSICAL JOURNAL A, vol.51, no.4, 2015 (SCI-Expanded)
- XIV. **Corrected analytical solution of the generalized Woods-Saxon potential for arbitrary l states**
BAYRAK O., Aciksoz E.
PHYSICA SCRIPTA, vol.90, no.1, 2015 (SCI-Expanded)

- XV. **Effect of external fields on the energies of hydrogenic donor with the anharmonic confinement potential**
Aciksoz E., BAYRAK O., SOYLU A.
PHYSICA B-CONDENSED MATTER, vol.456, pp.339-343, 2015 (SCI-Expanded)
- XVI. **Bound states of the Dirac equation for the generalized Woods-Saxon potential in pseudospin and spin symmetry limits**
CANDEMIR N., Bayrak O.
MODERN PHYSICS LETTERS A, vol.29, no.35, 2014 (SCI-Expanded)
- XVII. **Massive Dirac equation in asymmetric Hulthen potential**
Candemir N., BAYRAK O.
JOURNAL OF MATHEMATICAL PHYSICS, vol.54, no.4, 2013 (SCI-Expanded)
- XVIII. **Role of the cluster deformations in explaining the exotic decay half-lives**
Soylu A., SERT Y., BAYRAK O., BOZTOSUN İ.
EUROPEAN PHYSICAL JOURNAL A, vol.48, no.9, 2012 (SCI-Expanded)
- XIX. **Effect of the velocity-dependent potentials on the energy eigenvalues of the Morse potential**
Soylu A., BAYRAK O., BOZTOSUN İ.
CENTRAL EUROPEAN JOURNAL OF PHYSICS, vol.10, no.4, pp.953-959, 2012 (SCI-Expanded)
- XX. **Supersymmetric solution of Schrodinger equation by using the asymptotic iteration method**
KOÇAK G., BAYRAK O., BOZTOSUN İ.
ANNALEN DER PHYSIK, vol.524, no.6-7, pp.353-359, 2012 (SCI-Expanded)
- XXI. **RADIAL SENSITIVITY OF THE ELASTIC SCATTERING AROUND THE COULOMB BARRIER ENERGIES FOR WEAKLY-BOUND AND HALO NUCLEI**
SERT Y., CANER T., BAYRAK O., BOZTOSUN İ.
MODERN PHYSICS LETTERS A, vol.27, no.21, 2012 (SCI-Expanded)
- XXII. **Effect of nuclear deformation on alpha-decay half-lives**
ÇOBAN A. Y., BAYRAK O., Soylu A., BOZTOSUN İ.
PHYSICAL REVIEW C, vol.85, no.4, 2012 (SCI-Expanded)
- XXIII. **The energy eigenvalues of the Kratzer potential in the presence of a magnetic field**
Aygun M., BAYRAK O., BOZTOSUN İ., ŞAHİN Y.
EUROPEAN PHYSICAL JOURNAL D, vol.66, no.2, 2012 (SCI-Expanded)
- XXIV. **Phase shift analysis of the He-6+Pb-208 and the He-6+Au-197 systems**
BAYRAK O., BOZTOSUN İ.
CENTRAL EUROPEAN JOURNAL OF PHYSICS, vol.10, no.1, pp.109-115, 2012 (SCI-Expanded)
- XXV. **Effect of the Velocity-Dependent Potentials on the Bound State Energy Eigenvalues**
BAYRAK O., Soylu A., BOZTOSUN İ.
CHINESE PHYSICS LETTERS, vol.28, no.4, 2011 (SCI-Expanded)
- XXVI. **Semiclassical description of the He-6+C-12 elastic scattering**
BAYRAK O., BOZTOSUN İ.
PHYSICS OF ATOMIC NUCLEI, vol.74, no.1, pp.13-18, 2011 (SCI-Expanded)
- XXVII. **The relativistic treatment of spin-0 particles under the rotating Morse oscillator**
BAYRAK O., Soylu A., BOZTOSUN İ.
JOURNAL OF MATHEMATICAL PHYSICS, vol.51, no.11, 2010 (SCI-Expanded)
- XXVIII. **Analytical solution of the Schrodinger equation for Makarov potential with any l angular momentum**
Bayrak O., Karakoc M., Boztosun I., Sever R.
INTERNATIONAL JOURNAL OF THEORETICAL PHYSICS, vol.47, no.11, pp.3005-3014, 2008 (SCI-Expanded)
- XXIX. **Exact solutions of Klein-Gordon equation with scalar and vector Rosen-Morse-type potentials**
Soylu A., BAYRAK O., Boztosun I.
CHINESE PHYSICS LETTERS, vol.25, no.8, pp.2754-2757, 2008 (SCI-Expanded)
- XXX. **Exact solutions of Klein-Gordon equation with exponential scalar and vector potentials**
Taskin F., Boztosun I., BAYRAK O.
INTERNATIONAL JOURNAL OF THEORETICAL PHYSICS, vol.47, no.6, pp.1612-1617, 2008 (SCI-Expanded)

- XXXI. **kappa state solutions of the Dirac equation for the Eckart potential with pseudospin and spin symmetry**
Soylu A., BAYRAK O., Boztosun I.
JOURNAL OF PHYSICS A-MATHEMATICAL AND THEORETICAL, vol.41, no.6, 2008 (SCI-Expanded)
- XXXII. **Arbitrary l-state solution of the Hellmann potential**
KOÇAK G., BAYRAK O., Boztosun I.
JOURNAL OF THEORETICAL & COMPUTATIONAL CHEMISTRY, vol.6, no.4, pp.893-903, 2007 (SCI-Expanded)
- XXXIII. **The pseudospin symmetric solution of the Morse potential for any kappa state**
BAYRAK O., Boztosun I.
JOURNAL OF PHYSICS A-MATHEMATICAL AND THEORETICAL, vol.40, no.36, pp.11119-11127, 2007 (SCI-Expanded)
- XXXIV. **An alternative accurate solution of the exponential cosine screened Coulomb potential**
Bayrak O., Boztosun I.
INTERNATIONAL JOURNAL OF MODERN PHYSICS C, vol.18, no.9, pp.1443-1451, 2007 (SCI-Expanded)
- XXXV. **An approximate solution of Dirac-Hulthen problem with pseudospin and spin symmetry for any kappa state**
Soylu A., Bayrak O., Boztosun I.
JOURNAL OF MATHEMATICAL PHYSICS, vol.48, no.8, 2007 (SCI-Expanded)
- XXXVI. **Bound state solutions of the Hulthen potential by using the asymptotic iteration method**
Bayrak O., Boztosun I.
PHYSICA SCRIPTA, vol.76, no.1, pp.92-96, 2007 (SCI-Expanded)
- XXXVII. **Application of the asymptotic iteration method to the exponential cosine screened coulomb potential**
Bayrak O., Boztosun I.
INTERNATIONAL JOURNAL OF QUANTUM CHEMISTRY, vol.107, no.5, pp.1040-1045, 2007 (SCI-Expanded)
- XXXVIII. **Exact analytical solutions to the Kratzer potential by the asymptotic iteration method**
Bayrak O., Boztosun I., Ciftci H.
INTERNATIONAL JOURNAL OF QUANTUM CHEMISTRY, vol.107, no.3, pp.540-544, 2007 (SCI-Expanded)
- XXXIX. **Solution of the radial Schrodinger equation for the potential family $V(r)=(A)/(r^2)-(B)/(r)+Cr-kappa$ using the asymptotic iteration method**
Aygun M., Bayrak O., Boztosun I.
JOURNAL OF PHYSICS B-ATOMIC MOLECULAR AND OPTICAL PHYSICS, vol.40, no.3, pp.537-544, 2007 (SCI-Expanded)
- XL. **The energy eigenvalues of the two dimensional hydrogen atom in a magnetic field**
Soylut A., Bayrak O., Boztosun I.
INTERNATIONAL JOURNAL OF MODERN PHYSICS E, vol.15, no.6, pp.1263-1271, 2006 (SCI-Expanded)
- XLI. **Any l-state solutions of the Hulthen potential by the asymptotic iteration method**
Bayrak O., Kocak G., Boztosun I.
JOURNAL OF PHYSICS A-MATHEMATICAL AND GENERAL, vol.39, no.37, pp.11521-11529, 2006 (SCI-Expanded)
- XLII. **Arbitrary l-state solutions of the rotating Morse potential by the asymptotic iteration method**
Bayrak O., Boztosun I.
JOURNAL OF PHYSICS A-MATHEMATICAL AND GENERAL, vol.39, no.22, pp.6955-6963, 2006 (SCI-Expanded)
- XLIII. **The examination of the C-12+Mg-24 elastic scattering around the Coulomb barrier**
Boztosun I., Dagdemir Y., Bayrak O.
PHYSICS OF ATOMIC NUCLEI, vol.68, no.7, pp.1153-1159, 2005 (SCI-Expanded)
- XLIV. **A comparative study of the C-12+Mg-24 system with deep and shallow potentials**
Boztosun I., Bayrak O., Dagdemir Y.
INTERNATIONAL JOURNAL OF MODERN PHYSICS E-NUCLEAR PHYSICS, vol.14, no.4, pp.663-673, 2005 (SCI-Expanded)

Articles Published in Other Journals

- I. **Elastic scattering analysis of $^{12}\text{C}+^{24}\text{Mg}$ by WKB method**
BAYRAK O.
TURKISH JOURNAL OF PHYSICS, vol.41, pp.1, 2017 (Scopus)
- II. **Microscopic Analysis of Elastic Scattering of ^7Be , ^9Be , ^{10}B , ^{12}C , ^{14}N , ^{27}Al , ^{58}Ni and ^{208}Pb Systems,**
AYGÜN M., BAYRAK O., AYGÜN Z.
Quantum Physics Letters, 2017 (Peer-Reviewed Journal)
- III. **Elastic scattering analysis of $\text{C-}^{12}+\text{Mg-}^{24}$ by WKB method**
BAYRAK O.
TURKISH JOURNAL OF PHYSICS, vol.41, no.6, pp.520-525, 2017 (ESCI)

Refereed Congress / Symposium Publications in Proceedings

- I. **Non-relativistic solutions of the generalized symmetric Woods-Saxon potential**
LÜTFÜOĞLU B. C., Akdeniz F., BAYRAK O.
VII Conference on Quantum Foundations, Cordoba, Argentina, 28 November - 01 December 2017
- II. **Non relativistic solutions of the generalized symmetric Woods-Saxon potential**
LÜTFÜOĞLU B. C., Akdeniz F., BAYRAK O.
VII Conference on Quantum Foundations: 90 years of Uncertainty, Cordoba, Argentina, 29 November - 01 December 2017, vol.1, no.1, pp.8
- III. **Non relativistic solutions of the generalized symmetric Woods-Saxon potential**
LÜTFÜOĞLU B. C., Akdeniz F., BAYRAK O.
VII Conference on Quantum Foundations: 90 years of Uncertainty, Cordoba, Argentina, 29 November - 01 December 2017, vol.1, no.1, pp.8
- IV. **Cluster Model Calculations for ^{44}Ti**
koyuncu f., SOYLU A., BAYRAK O.
IX. INTERNATIONAL WORKSHOP ON NUCLEAR STRUCTURE PROPERTIES, 1 - 03 September 2016
- V. **Analytical Solution of Schrödinger equation for generalized symmetric Woods-Saxon potential: Scattering, bound and quasi-bound states.**
LÜTFÜOĞLU B. C., Akdeniz F., BAYRAK O.
ICQSA 2016, Eskişehir, Turkey, 25 - 27 May 2016, pp.120
- VI. **The influence of nuclear deformations on the exotic cluster decay half-lives**
SOYLU A., BAYRAK O., EVLICE S.
1st NUBA International Conference on Nuclear Physics and Astrophysics, Antalya, Turkey, 14 - 21 September 2014, vol.590
- VII. **Analytical solution of the Morse and the Hulthen potentials by using asymptotic iteration method**
BAYRAK O., Boztosun I.
6th International Conference of the Balkan-Physical-Union, İstanbul, Turkey, 22 - 26 August 2006, vol.899, pp.353-354
- VIII. **$^{12}\text{C}+^{24}\text{Mg}$ Sisteminin Mikroskopik ve Fenomonolojik Modellerle İncelenmesi**
BAYRAK O., BOZTOSUN İ., DAĞDEMİR Y.
Türk Fizik Derneği 22. Uluslararası Fizik Kongresi, Turkey, 14 - 17 September 2004
- IX. **$^{12}\text{C}+^{24}\text{Mg}$ Sistemi: Derin ve Sığ potansiyeller Arasındaki Simetri**
BAYRAK O., BOZTOSUN İ., DAĞDEMİR Y.
VIII. Ulusal Nükleer Bilimler ve Teknolojileri Kongresi, Turkey, 15 - 17 October 2003

Supported Projects

BAYRAK O., Project Supported by Higher Education Institutions, Nükleer Küme Bozunum Mekanizmaları için Morse Potansiyeli, 2019 - Continues

BAYRAK O., AÇIKSÖZ E., BOZTOSUN İ., Project Supported by Higher Education Institutions, Exact Analytical Solution of the KleinGordon Equation in the Generalized Woods-Saxon Potential, 2016 - 2019

BAYRAK O., AÇIKSÖZ E., Project Supported by Higher Education Institutions, Bound states of the Dirac Equation for the generalized WoodsSaxon potential in pseudospin and spin symmetry limits, 2015 - 2018

BAYRAK O., AÇIKSÖZ E., Project Supported by Higher Education Institutions, alphaalpha folding cluster model for alphasradioactivity, 2015 - 2018

LÜTFÜOĞLU B. C., BAYRAK O., IKOT A. N., Project Supported by Higher Education Institutions, Klein-Gordon equation particles in exponential-type molecule potentials and their thermodynamic properties in D dimensions, 2017 - 2017

Bayrak O., Project Supported by Higher Education Institutions, Alfa Kümelenme Potansiyeli Kullanılarak 24Mg Çekirdeğinin Nükleer Yapı ve Rezonans Gözlenirlerinin İncelenmesi, 2015 - 2016

Bayrak O., TUBITAK Project, Hafif Orta Ve Ağır Çekirdeklerin Nükleer Yapı ve Reaksiyon Gözlenirlerinin Kümelenme Modeli Kullanarak Teorik Olarak İncelenmesi, 2015 - 2016

Bayrak O., TUBITAK Project, Ağır Çekirdeklerin Alfa Bozunum Mekanizmalarının İncelenmesi, 2011 - 2012

Bayrak O., TUBITAK Project, Nükleer Fizik ve Astrofizikteki Reaksiyon Gözlenebilirlerine Transfer ve Quasi Elastik Reaksiyonların Etkisi, 2007 - 2009

Bayrak O., TUBITAK Project, Nükleer Kümelenme Nükleer Yapı ve Reaksiyon Formalizmine Uygulanması, 2006 - 2008

Bayrak O., Project Supported by Higher Education Institutions, Hafif Ağır Çekirdek Reaksiyonlarının Açıklanması İçin Yeni Bir Potansiyel Yaklaşımı, 2006 - 2007

Scientific Refereeing

Physics Research International , SCI Journal, February 2016

Zeitschrift fur Naturforschung A , SCI Journal, February 2016

Scientific Reports , SCI Journal, February 2016

Physica B , SCI Journal, February 2016

ISRN Mathematical Physics , SCI Journal, February 2015

International Journal of Theoretical Physics , SCI Journal, February 2015

Indian Journal of Physics , SCI Journal, February 2015

Journal of Mathematical Physics , SCI Journal, February 2014

Bitlis Eren University Journal of Science And Technology , National Scientific Refreed Journal, February 2014

Journal of Theoretical and Applied Physics , SCI Journal, February 2014

The journal Few-Body Systems , SCI Journal, February 2013

Central European Journal of Physics , SCI Journal, February 2013

Advances in High Energy Physics , SCI Journal, February 2013

Physica Scripta , SCI Journal, February 2012

Metrics

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Scholarships

