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International Researcher IDs

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Education Information

Doctorate, Marmara University, Institute for Graduate Studies in Pure and Applied Sciences, Department of Physics, Turkey 2003 - 2008

Postgraduate, Marmara University, Institute for Graduate Studies in Pure and Applied Sciences, Department of Physics, Turkey 1999 - 2002

Undergraduate, Marmara University, Faculty of Arts and Sciences, Physics, Turkey 1995 - 1999

Dissertations

Doctorate, Elektron-iyon birleşmesi ve elektron-iyon çarpışmalı iyonlaşma, gaz fazında otoiyonlaşmaya karşı kararlı dianyonlar, dikatyonlar ve coulomb patlaması, Marmara Üniversitesi, Institute for Graduate Studies in Pure and Applied Sciences, Fizik (Dr), 2008

Postgraduate, Birinci mertebeden taban ve son hal korelasyonlarının titanium atomunun geçiş genliklerine etkileri, Marmara Üniversitesi, Institute for Graduate Studies in Pure and Applied Sciences, Fizik (YI) (Tezli), 2002

Research Areas

Physics, Condensed Matter 1: Structural, Mechanical and Thermal Properties, Structure of Liquids and Solids; Crystallography, Transport Phenomena in Condensed Matter, Natural Sciences

Academic Titles / Tasks

Associate Professor, Marmara University, Faculty Of Sciences, Department Of Physics, 2022 - Continues

Associate Professor, Marmara University, Faculty Of Arts And Sciences, Physics, 2018 - 2022

Assistant Professor, Marmara University, Faculty of Arts and Sciences, Physics, 2011 - 2018

Research Assistant, Marmara University, Faculty of Arts and Sciences, Physics, 2001 - 2011

Advising Theses

YUMAK YAŞI A., YAŞI U., Pozitron annihilasyon ömür spektroskopisi kullanılarak pamam dendrimerlerinin serbest

hacim incelemesi, Postgraduate, H.Kılıç(Student), 2019

YUMAK YAHSİ A., Okumuş A., Baş boyun radyoterapisinde farklı tedavi tekniklerinde simultane integre boost yönteminin karşılaştırılması, Doctorate, B.Coşkun(Student), 2016

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Correlation of proton conductivity and free volume in sulfonated polyether ether ketone electrolytes: A positron annihilation lifetime spectroscopy study**
Lahmuni M., Yılmazoğlu M., ABACI U., Coban O., YUMAK YAHSİ A., TAV C., YAHSİ U.
Radiation Physics and Chemistry, vol.226, 2025 (SCI-Expanded)
- II. **A novel approach for the atomic scale characterization of Li-ion battery components probed by positron annihilation lifetime spectroscopy**
Bakar R., Koc S., YUMAK YAHSİ A., TAV C., YAHSİ U.
Materials Research Bulletin, vol.180, 2024 (SCI-Expanded)
- III. **Proton pathways via free volumes: A positron annihilation lifetime spectroscopy (PALS) investigation of proton conductivity in SPEEK-PEG-TMOS composites**
Yılmazoğlu M., ABACI U., Okkay H., Yahsi A., TAV C., YAHSİ U.
Colloids and Surfaces A: Physicochemical and Engineering Aspects, vol.687, 2024 (SCI-Expanded)
- IV. **Free-Volume analysis of PAMAM dendrimers by means of positron annihilation lifetime spectroscopy**
YumakYahsi A., Uzun H., Altunkaya A. N., Unalkizilirmak A., TÜLÜ M., TAV C., YAHSİ U.
Journal of Molecular Structure, vol.1302, 2024 (SCI-Expanded)
- V. **Dielectric relaxation time of PVAc in terms of hole fraction calculated from the theory of Simha-Somcynsky**
YUMAK YAHSİ A., Almashayek A., YAHSİ U.
Polymer, vol.295, 2024 (SCI-Expanded)
- VI. **Optical and photoluminescence spectroscopy analysis and Doppler broadening annihilation radiation studies of perovskites based on La1-XNiXMnO2.75 thin layers**
Arrar A., Benhaliliba M., Boukhachem A., YAHSİ U., TAV C., Yumak A., Amlouk M.
OPTIK, vol.224, 2020 (SCI-Expanded)
- VII. **Doping-induced stability in vanadium-doped ZnO quantum well wires (QWW): Combination of DFT calculations within experimental measurements**
Yumak A., Goumri-Said S., Khan W., Boubaker K., Petkova P.
SOLID STATE SCIENCES, vol.57, pp.33-37, 2016 (SCI-Expanded)
- VIII. **Effect of europium content on physical properties of In2O3 thin films for sensitivity and optoelectronic applications**
Kamoun O., Boukhachem A., Mrabet C., Yumak A., Petkova P., Boubaker K., Amlouk M.
BULLETIN OF MATERIALS SCIENCE, vol.39, no.3, pp.777-788, 2016 (SCI-Expanded)
- IX. **Microstructural and optical properties of SnO2-ZnSnO3 ceramics**
Saafi I., Dridi R., Mimouni R., Amlouk A., Yumak A., Boubaker K., Petkova P., Amlouk M.
CERAMICS INTERNATIONAL, vol.42, no.5, pp.6273-6281, 2016 (SCI-Expanded)
- X. **Europium incorporation dynamics and some physical investigations within ZnO sprayed thin films**
Kamoun O., Boukhachem A., Yumak A., Petkova P., Boubaker K., Amlouk M.
MATERIALS SCIENCE IN SEMICONDUCTOR PROCESSING, vol.43, pp.8-16, 2016 (SCI-Expanded)
- XI. **INVESTIGATION OF RARE EARTH TEMPERATUREDEPENDENT PHYSICAL AND CHEMICAL ADSORPTION PROCESS CASE OF DYSPROSIUM ION**
YUMAK A.
Journal of Materials Science and Engineering with Advanced Technology, vol.13, pp.1-12, 2016 (SCI-Expanded)
- XII. **Physical investigations on perovskite LaMnO3-delta sprayed thin films for spintronic applications**
Boukhachem A., Ziouche A., Ben Amor M., Kamoun O., Zergoug M., Maghraoui-Meherzi H., Yumak A., Boubaker K.,

- Amlouk M.
MATERIALS RESEARCH BULLETIN, vol.74, pp.202-211, 2016 (SCI-Expanded)
- XIII. **Structural, optical and conductivity investigations on kappa-Al₂O₃ ceramics for powder metallurgical production and sensitivity applications**
Arifa H., Boukhachem A., Askri B., Boubaker K., Yumak A., Raouadi K.
CERAMICS INTERNATIONAL, vol.42, no.2, pp.2147-2157, 2016 (SCI-Expanded)
- XIV. **Europium doping-induced stability and quantum confinement effect in ZnO quantum well wires QWW: Electronic structure calculation and material structural investigation in terms of band-gap shift**
Yumak A., Yahsi U., Petkova P., Boubaker K.
MATERIALS LETTERS, vol.164, pp.89-92, 2016 (SCI-Expanded)
- XV. **Common and different doping patterns within photo-reactive complexes of Co²⁺ in Bi₁₂SiO₂₀ and Co³⁺ in Bi₁₂TiO₂₀**
Petkova P., Boubaker K., Vasilev P., Mustafa M., YUMAK YAHŞI A., Bachvarova D.
OPTIK, vol.127, no.9, pp.3925-3928, 2016 (SCI-Expanded)
- XVI. **Pure and zirconium-doped manganese(II,III) oxide: Investigations on structural and conduction-related properties within the Lattice Compatibility Theory scope**
Ben Said L., Larbi T., Yumak A., Boubaker K., Amlouk M.
MATERIALS SCIENCE IN SEMICONDUCTOR PROCESSING, vol.40, pp.224-229, 2015 (SCI-Expanded)
- XVII. **An attempt to give exact solitary and periodic wave polynomial solutions to the nonlinear Klein-Gordon-Schrodinger equations**
Yumak A., Boubaker K., Petkova P.
CHAOS SOLITONS & FRACTALS, vol.81, pp.299-302, 2015 (SCI-Expanded)
- XVIII. **Structural, optical, vibrational and photoluminescence studies of Sn-doped MoO₃ sprayed thin films**
Boukhachem A., Kamoun O., Mrabet C., Mannai C., Zouaghi N., Yumak A., Boubaker K., Amlouk M.
MATERIALS RESEARCH BULLETIN, vol.72, pp.252-263, 2015 (SCI-Expanded)
- XIX. **Stability and morphology-dependence of Sc³⁺ ions incorporation and substitution kinetics within ZnO host lattice**
Yumak A., TURGUT G., Kamoun O., ÖZİŞİK H., DELİĞÖZ E., Petkova P., Mimouni R., Boubaker K., Amlouk M., Goumri-Said S.
MATERIALS SCIENCE IN SEMICONDUCTOR PROCESSING, vol.39, pp.103-111, 2015 (SCI-Expanded)
- XX. **Molecular structure stability of short-chain chlorinated paraffins (SCCPs): Evidence from lattice compatibility and Simha-Somcynsky theories**
Yumak A., Boubaker K., Petkova P., Yahsi U.
JOURNAL OF MOLECULAR STRUCTURE, vol.1098, pp.255-260, 2015 (SCI-Expanded)
- XXI. **Effect of Mn content on structural, optical, opto-thermal and electrical properties of ZnO:Mn sprayed thin films compounds**
Mimouni R., Kamoun O., Yumak A., Mhamdi A., Boubaker K., Petkova P., Amlouk M.
JOURNAL OF ALLOYS AND COMPOUNDS, vol.645, pp.100-111, 2015 (SCI-Expanded)
- XXII. **Impedance spectroscopy and sensors under ethanol vapors application of sprayed vanadium-doped ZnO compounds**
Mhamdi A., Labidi A., Souissi B., Kahlaoui M., Yumak A., Boubaker K., Amlouk A., Amlouk M.
JOURNAL OF ALLOYS AND COMPOUNDS, vol.639, pp.648-658, 2015 (SCI-Expanded)
- XXIII. **Low-cost spray-processed Ag_{1-x}Cu_xInS₂ nano-films: Structural and functional investigation within the Lattice Compatibility Theory framework**
Gherouel D., Yumak A., Znaidi M., Bouzidi A., Boubaker K., Yacoubi N., Amlouk M.
MATERIALS RESEARCH BULLETIN, vol.68, pp.80-86, 2015 (SCI-Expanded)
- XXIV. **Physical investigations on NiMn₂O₄ sprayed magnetic spinel for sensitivity applications**
Larbi T., Amara A., Ouni B., Inoubli A., Karyauoui M., Yumak A., Saadallah F., Boubaker K., Amlouk M.
JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS, vol.387, pp.139-146, 2015 (SCI-Expanded)
- XXV. **Relaxation time of polypropylene glycol and polypropylene glycol dimethylether-like polymers in**

terms of fluid-phase temperature and pressure dependent hole fraction

YAHŞI U., Coskun B., YUMAK YAHŞI A., Boubaker K., TAV C.

EUROPEAN POLYMER JOURNAL, vol.68, pp.226-232, 2015 (SCI-Expanded)

- XXVI. **Structural, optical and AC conductivity studies on alloy ZnO-Zn₂SnO₄ (ZnO-ZTO) thin films**
Dridi R., Saafi I., Mhamdi A., Matri A., Yumak A., Lakhdar M. H., Amlouk A., Boubaker K., Amlouk M.
JOURNAL OF ALLOYS AND COMPOUNDS, vol.634, pp.179-186, 2015 (SCI-Expanded)
- XXVII. **Electrosynthesis and study of some physical properties of conductive and solid-state gas sensing polydiphenylamine**
Boukhachem A., Yumak A., Krichen S., Madani A., Abderrabba M., Petkova P., Boubaker K., Amlouk M., Bouchriha H.
SENSORS AND ACTUATORS A-PHYSICAL, vol.227, pp.11-20, 2015 (SCI-Expanded)
- XXVIII. **Lattice Compatibility Theory LCT investigations on sulfur-oxygen substitution during Sb₂S₃-Sb₂O₃ crystals growth**
Colantoni A., Longo L., Boubaker K., Monarca D., Cecchini M., Cividino S., Yumak A., Biondi P., Di Giacinto S., Menghini G.
MATERIALS RESEARCH EXPRESS, vol.2, no.3, 2015 (SCI-Expanded)
- XXIX. **Optical Physical Chemical and Electrical Properties of Nickel Oxide Sprayed Thin Films under Tin Doping Effects**
Amor M. B., Hamzaoui N., Boukhachem A., Mrabet C., Ghamnia M., YUMAK A., Boubaker K., Petkova P., Amlouk M.
Advances in Ceramic Science and Engineering, vol.4, pp.19, 2015 (SCI-Expanded)
- XXX. **Two small thermodynamically stable organic dications**
YUMAK YAHŞI A., YAVUZ İ., ALTUN Z., Trindle C.
JOURNAL OF MOLECULAR STRUCTURE-THEOCHEM, vol.940, pp.6-12, 2010 (SCI-Expanded)
- XXXI. **Electron-impact ionization of atomic ions in the Na isoelectronic sequence**
ALTUN Z., Yumak A., Golcek U., Loch S. D., Pindzola M. S., Griffin D. C.
PHYSICA SCRIPTA, vol.78, no.2, 2008 (SCI-Expanded)
- XXXII. **Dielectronic recombination data for dynamic finite-density plasmas - XIII. The magnesium isoelectronic sequence**
Altun Z., Yumak A., Yavuz I., Badnell N. R., Loch S. D., Pindzola M. S.
ASTRONOMY & ASTROPHYSICS, vol.474, no.3, pp.1051-1059, 2007 (SCI-Expanded)
- XXXIII. **Dielectronic recombination data for dynamic finite-density plasmas - XI. The sodium isoelectronic sequence**
Altun Z., Yumak A., Badnell N., Loch S., Pindzola M.
ASTRONOMY & ASTROPHYSICS, vol.447, no.3, pp.1165-1174, 2006 (SCI-Expanded)
- XXXIV. **Open shell dianions likely to be stable in the gas phase with respect to autoionization**
Trindle C., Yumak A.
JOURNAL OF CHEMICAL THEORY AND COMPUTATION, vol.1, no.5, pp.1038-1044, 2005 (SCI-Expanded)
- XXXV. **Tetrahedral sulfur-based dianions stable in the gas phase: Application of the Cederbaum-Dreuw design principles**
Trindle C., Yumak A.
JOURNAL OF CHEMICAL THEORY AND COMPUTATION, vol.1, no.3, pp.433-438, 2005 (SCI-Expanded)
- XXXVI. **Erratum Dielectronic recombination data for dynamic finite density plasmas VI The boron isoelectronic sequence**
ALTUN Z., YUMAK A., Badnell N. R., Colgan J., Pindzola M. S.
Astronomy, vol.433, pp.395, 2005 (SCI-Expanded)
- XXXVII. **Dielectronic recombination data for dynamic finite-density plasmas - VI. The boron isoelectronic sequence**
Altun Z., Yumak A., Badnell N., Colgan J., Pindzola M.
ASTRONOMY & ASTROPHYSICS, vol.420, no.2, pp.775-781, 2004 (SCI-Expanded)

Articles Published in Other Journals

- I. **Baş Boyun Radyoterapisinde Farklı Tedavi Teknikleri İle Simultane İntegre Boost Yönteminin Karşılaştırılması**
Coşkun B., YUMAK YAŞI A., OKUMUŞ A., AKTAŞ Ş., TOKATLI Z. F.
Marmara Fen Bilimleri Dergisi, vol.1, pp.20-28, 2017 (Peer-Reviewed Journal)

Books & Book Chapters

- I. **The Analysis of Physical and Chemical Adsorption of Dysprosium Ions as Functions of the Temperature and Time in Terms of Boubaker Polynomials**
YUMAK YAŞI A.
in: Current Research Progress in Physical Science Vol. 3, Abbas Mohammed, Editor, BP International, pp.1-17, 2024
- II. **FİZİK, Fen ve Mühendislik için Teknoloji Güncellemeli, Serway, Jewett,, CİLT 1, Mekanik/Dalgalar/Termodinamik**
Yahşi U., Saçlı Ö. A., Keskin S. S., Tav C., Dumludağ F., Yumak Yahşi A., Avgın İ.
Palme Yayın Dağıtım, İstanbul, 2021

Refereed Congress / Symposium Publications in Proceedings

- I. **A Novel Approach Enabling Atomic Scale Characterization for Li-ion Battery Components probed by Positron Annihilation Lifetime Spectroscopy (PALS)**
BAKAR R., KOÇ S., YUMAK YAŞI A., YAŞI U.
7th Int. Symp on Materials for Energy Storage and Conversion & 11th Int. Conference on Nanomaterials and Advanced Energy Storage Systems, Muğla, Turkey, 17 July 2023
- II. **Temperature and Pressure Dependent Relaxation of Polymers In Terms of Free Volume Fraction**
YAŞI U., ÇOŞKUN B., YUMAK YAŞI A., TAV C.
Uluslararası Katılımlı VII. Polimer Bilim ve Teknoloji Kongresi (Polimer 2018), Eskişehir, Turkey, 9 - 12 September 2018
- III. **The Surface Gradient Profile of Free Volume of PS, PMMA, and SAN using Simha-Somcynsky and Cahn-Hilliard Theories**
YUMAK YAŞI A., YAŞI U., TAV C., KÜZECİ S.
The International Joint Science Congress of Materials Polymers ISCMP 2017, Ohrid, Macedonia, 25 - 28 August 2017
- IV. **The Surface Gradient Profile of Free Volume of PS, PMMA, and SAN using Simha-Somcynsky and Cahn-Hilliard Theories**
YUMAK YAŞI A., KUZECİ S., TAV C., YAŞI U.
The International Joint Science Congress of Materials Polymers, 25 - 28 August 2017
- V. **Infrared Spectroscopy of Undoped and Cu-doped (80-x)Sb₂O₃-20Li(2)O-xMoO(3) Glasses**
Petkova P., Boubaker K., Vasilev P., Mustafa M., Yumak A., Touihri H., Soltani M. T.
5th International Advances in Applied Physics and Materials Science Congress and Exhibition (APMAS), Oludeniz, Turkey, 16 - 19 April 2015, vol.1727
- VI. **Dielectronic Recombination in He like Li like and Be like Iodine and KLM Resonances**
BLEDA E. A., YUMAK YAŞI A., YAVUZ İ., ALTUN Z.
XXVII INTERNATIONAL CONFERENCE ON PHOTONIC, ELECTRONIC AND ATOMIC COLLISIONS (ICPEAC 2011), PTS 1-15, Belfast, K. İrlanda, United Kingdom, 1 - 05 October 2012, vol.388, pp.62038
- VII. **Dielectronic Recombination in He-like, Li-like and Be-like Yttrium and KLM Resonances**
Yumak A., Karakas V., ALTUN Z.
27th International Conference on Photonic, Electronic and Atomic Collisions (ICPEAC), Belfast, United Kingdom, 27

July - 02 August 2011, vol.388

- VIII. **Dielectric Recombination Rate Coefficients of B-Like C (OTURUM NO: 01_OP67)**
YUMAK YAŞI A., YAVUZ İ., BLEDA E. A., KARAKAŞ V., ALTUN Z.
Turkish Physical Society 28th International Physics Congress, Muğla, Turkey, 6 - 09 September 2011
- IX. **Dielectronic Recombination in He like Li like and Be like Bismuth and KLM Resonances**
YAVUZ İ., YUMAK A., BLEDA E. A., ALTUN Z.
XXVII International Conference on Photonic, Electronic and Atomic Collisions, Belfast, United Kingdom, 27 July - 02 August 2011
- X. **Dielectronic recombination rate coefficients of B like C**
YUMAK YAŞI A., YAVUZ İ., BLEDA E. A., Karakaş V., ALTUN Z.
28th International Physics Congress, Mugla, Bodrum, Turkey, 1 - 03 November 2011, pp.114
- XI. **RECOMBINATION RATE COEFFICIENTS of Li LIKE SULFUR Ref 227**
YAVUZ İ., YUMAK YAŞI A., BLEDA E. A., ALTUN Z.
10th European Conference on Atoms Molecules and Photons (ECAMP 10), Salamanca, Mexico, 4 - 09 July 2010
- XII. **ELECTRON IMPACT IONIZATION of Li LIKE SILICON Ref 722**
ALTUN Z., YUMAK YAŞI A., YAVUZ İ., BLEDA E. A.
10th European Conference on Atoms Molecules and Photons (ECAMP 10), Salamanca, Mexico, 4 - 09 July 2010
- XIII. **Recombination Rate Coefficients of Be Like Sulfur**
YUMAK A., YAVUZ İ., BLEDA E. A., ALTUN Z.
ECAMP10, 10th European Conference on Atoms Molecules and Photons, Salamanca, Mexico, 4 - 09 July 2010, pp.34
- XIV. **Recombination Rate Coefficients of Li Like Sulfur**
YAVUZ İ., YUMAK A., BLEDA E. A., ALTUN Z.
ECamp10, 10th European Conference on Atoms Molecules and Photons, Salamanca, Mexico, 4 - 09 July 2010, pp.50
- XV. **Level resolved distorted wave cross sections of electron impact ionization of Ar5**
YAVUZ İ., YUMAK YAŞI A., ALTUN Z.
XXVI International Conference on Photonic, Electronic and Atomic Collisions, Kalamazoo, United States Of America, 1 - 03 November 2009, vol.194, pp.62016
- XVI. **Electron-Impact Ionization of Atomic Ions: Theoretical Results**
Loch S. D., Burgos J. M. M., Ballance C. P., Ludlow J., Lee T. -, Fogle M., Pindzola M. S., Griffin D. C., Yumak A., Yavuz I., et al.
26th International Conference on Photonic, Electronic and Atomic Collisions, Michigan, United States Of America, 22 - 28 July 2009, vol.194
- XVII. **Can Small Organic Cations Bind Protons**
YUMAK A., Trindle C., ALTUN Z.
3th ICQC International Congress of Quantum Chemistry, Helsinki, Finland, 22 - 24 June 2009, pp.172
- XVIII. **Resonances in rate coefficients of Na like Sulphur**
YAVUZ İ., YUMAK A., ALTUN Z.
X08, 21st INTERNATIONAL CONFERENCE ON X-RAY AND INNER-SHELL PROCESSES, Paris, France, 22 - 27 June 2008, pp.59
- XIX. **Excitation Ionization Cross Section Na Like Tin**
YUMAK A., Gölçek U., YAVUZ İ., ALTUN Z.
ECAMP IX European Conference on Atoms Molecules and Photons, Heraklion, Greece, 6 - 11 May 2007, pp.1
- XX. **Resonances in The Velocity Averaged Dielectronic Recombination Cross Section for Mg like Fe**
YUMAK A., ÇİFTÇİOĞLU G. A., YAVUZ İ., ALTUN Z.
IWP International Workshop on Photoionization 2005, Campinas, Brazil, 27 - 31 July 2005
- XXI. **Dielectronic Recombination for K14 Ca15 and Sc16 from Ground Plus Metastable States**
YUMAK A., ÇİFTÇİOĞLU G. A., ALTUN Z.
24th International Conference on Photonic Electronic and Atomic Collisions, Rosario, Argentina, 20 - 26 July 2005, pp.1

Supported Projects

Tav C., Uzun H., Yumak Yahşi A., Yahşi U., Project Supported by Higher Education Institutions, Investigation of Void Structure of PAMAM Dendrimers using Positron Annihilation Lifetime Spectroscopy, 2018 - 2021

Dumludağ F., Yahşi U., Altun Z., Aktaş Ş., Esmer K., Tav C., Özdemir M., Akkoyunlu B. O., Yumak Yahşi A., Alevli M., et al., Project Supported by Higher Education Institutions, İleri Modern Fizik Laboratuvarı (FEN-E-120613-0265), 2013 - 2017

Metrics

Publication: 62

Citation (WoS): 497

Citation (Scopus): 540

H-Index (WoS): 13

H-Index (Scopus): 12

Non Academic Experience

University of Virginia Department of Chemistry

University of Virginia Department of Chemistry