

Prof. MUSTAFA BÖYÜKATA

Personal Information

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International Researcher IDs

ORCID: 0000-0002-1117-2620

Publons / Web Of Science ResearcherID: W-3195-2017

Yoksis Researcher ID: 120207

Education Information

Post Doctorate, Universidade Federal De Minas Gerais, Instituto de Ciências Exatas, Química, Brazil 2004 - 2005

Doctorate, Gazi University, Fen Bilimleri Enstitüsü, Fizik (Dr), Turkey 1996 - 2000

Postgraduate, Celâl Bayar Üniversitesi, Fen Bilimleri Enstitüsü, Fizik (Yl) (Tezli), Turkey 1994 - 1996

Undergraduate, Middle East Technical University, Faculty Of Education, Matematik Ve Fen Bilimleri Eğitimi Bölümü, Turkey 1988 - 1993

Foreign Languages

English, B2 Upper Intermediate

Research Areas

Physics, Atomic and Molecular Physics, Interdisciplinary Physics and Related Science and Technology Areas, General Physics, Intensive Article 2: Electronic Structure, Electric, Magnetic and Optical Properties

Academic Titles / Tasks

Professor, Yozgat Bozok University, Fen-Edebiyat Fakültesi, Fizik Bölümü, 2015 - Continues

Associate Professor, Yozgat Bozok University, Fen-Edebiyat Fakültesi, Fizik Bölümü, 2010 - 2015

Assistant Professor, Yozgat Bozok University, Fen-Edebiyat Fakültesi, Fizik Bölümü, 2001 - 2010

Research Assistant PhD, Manisa Celal Bayar University, Faculty Of Arts And Sciences, Department Of Physics, 2000 - 2001

Research Assistant, Gazi University, Fen Bilimleri Enstitüsü, Fizik (Dr), 1999 - 2000

Research Assistant, Celâl Bayar Üniversitesi, Fen-Edebiyat Fakültesi, Fizik Bölümü, 1994 - 1999

Academic and Administrative Experience

Yozgat Bozok University, 2008 - Continues

Dean, Yozgat Bozok University, Fen-Edebiyat Fakültesi, 2016 - 2018

University Executive Board Member, Yozgat Bozok University, 2015 - 2018
Yozgat Bozok University, 2016 - 2016
Yozgat Bozok University, 2015 - 2016
Yozgat Bozok University, 2007 - 2014
Yozgat Bozok University, 2007 - 2011
Yozgat Bozok University, 2008 - 2010

Courses

Nümerik Hesaplama Yöntemleri I, Postgraduate, 2017 - 2018
BİLİMSEL ÇALIŞMA TEKNİKLERİ, Postgraduate, 2017 - 2018, 2015 - 2016
UZMANLIK ALAN DERSİ-I, Postgraduate, 2017 - 2018, 2016 - 2017
TEZ ÇALIŞMASI, Postgraduate, 2017 - 2018, 2016 - 2017, 2015 - 2016
proje Tasarım Teknikleri, Undergraduate, 2017 - 2018
Atom ve Molekül Fiziği I, Postgraduate, 2016 - 2017, 2015 - 2016
Fizik I (İnşaat Mühendisliği İ.Ö.), Undergraduate, 2016 - 2017
FİZİK-II (İnşaat Müh İ.Ö.), Undergraduate, 2015 - 2016
FİZİK-I (İnşaat Müh İ.Ö.), Undergraduate, 2015 - 2016
UZMANLIK ALAN DERSİ, Postgraduate, 2015 - 2016

Advising Theses

BÖYÜKATA M., Radyoaktif iyot tedavisi yapılan hastalarda tiroid ve tükrük bezlerinin absorbe ettiği radyasyon dozunun MIRD yöntemiyle hesaplanması ve klinik korelasyonu, Postgraduate, G.ŞAHUTOĞLU(Student), 2017
BÖYÜKATA M., Fe-Cr-B üçlü alaşım topaklarının incelenmesi, Postgraduate, Ş.ARDA(Student), 2014
BÖYÜKATA M., Karbonmonoksit bağlı platin katkılı bor hidrürlerin incelenmesi, Postgraduate, N.ÖZBEY(Student), 2014
BÖYÜKATA M., Titanyum azot topakları ve bor katkılanması, Postgraduate, N.ELMAS(Student), 2011
BÖYÜKATA M., Titanyum-bor topaklarının incelenmesi, Postgraduate, M.AKAR(Student), 2011
BÖYÜKATA M., Aktinit serisi bazı metal topakların yapısal analizi, Postgraduate, S.CINAKLI(Student), 2008

Jury Memberships

Appointment to Academic Staff-Assistant Professorship, Appointment Academic Staff, Manisa Celal Bayar Üniversitesi, March, 2022
Competition, 5. Türk Dünyası Bilim ve Kültür Şenliği, Türk Dünyası Çocuk Vakfı, November, 2021
Competition, 4. Türk Dünyası Bilim ve Kültür Şenliği, Yozgat Bozok University, March, 2020

Published journal articles indexed by SCI, SSCI, and AHCI

- I. Lifetime of cm-sized zodiacal dust from the physical and dynamical evolution of meteoroid streams
Jenniskens P., Pilorz S., Gural P. S., Samuels D., Rau S., Abbott T. M., Albers J., Austin S., Avner D., Baggaley J. W., et al.
Icarus, vol.415, 2024 (SCI-Expanded)
- II. Structural, energetics and vibrational analyses of monomeric and dimeric forms of 2-deoxy-2-(3-methyl-3-nitrosourea)-1-D-glucopyranose
Arı H., Pandır D., Böyükata M.
JOURNAL OF MOLECULAR STRUCTURE, vol.1229, 2021 (SCI-Expanded)
- III. FTIR, Raman and DFT studies on 2-[4-(4-ethylbenzamido)phenyl] benzothiazole and 2-[4-(4-nitrobenzamido)phenyl]benzothiazole supported by differential scanning calorimetry

- ÜNSALAN O., ARI H., ALTUNAYAR ÜNSALAN Ç., BOLELLİ K., BÖYÜKATA M., Yalcin I.
JOURNAL OF MOLECULAR STRUCTURE, vol.1218, 2020 (SCI-Expanded)
- IV. **Synthesis and DFT study of Cd(II) and Hg(II) complexes of ONNO-type Schiff bases**
AKSU M., Cifci M., BÖYÜKATA M., DURMUŞ S., Babgi B.
INORGANIC AND NANO-METAL CHEMISTRY, vol.47, no.6, pp.850-858, 2017 (SCI-Expanded)
- V. **Dynamic H-1 NMR Studies of Schiff Base Derivatives**
Koylu M. Z., Ekinci A., BÖYÜKATA M., Temel H.
JOURNAL OF APPLIED SPECTROSCOPY, vol.82, no.6, pp.905-909, 2016 (SCI-Expanded)
- VI. **Micro-Raman, Mid-IR, Far-IR and DFT studies on 2-[4-(4-Fluorobenzamido)phenyl]benzothiazole**
ÜNSALAN O., Sert Y., Ari H., Simao A., Yilmaz A., BÖYÜKATA M., Bolukbasi O., Bolelli K., Yalcin I.
SPECTROCHIMICA ACTA PART A-MOLECULAR AND BIOMOLECULAR SPECTROSCOPY, vol.125, pp.414-421, 2014
(SCI-Expanded)
- VII. **Hartree-Fock and Density Functional Theory analysis of N-phenyl-1,2-naphthylamine**
Sengul M. S., Cinakli S., BÖYÜKATA M.
SPECTROCHIMICA ACTA PART A-MOLECULAR AND BIOMOLECULAR SPECTROSCOPY, vol.114, pp.377-393, 2013
(SCI-Expanded)
- VIII. **Vibrational spectroscopic studies of 3-hydroxyphenylboronic acid: molecular structure**
Sert Y., Ucun F., BÖYÜKATA M.
INDIAN JOURNAL OF PHYSICS, vol.87, no.2, pp.113-119, 2013 (SCI-Expanded)
- IX. **Molecular structures and vibrational spectra of 2-, 3-and 4-ethylpyridines and 2-, 3-and 4-vinylpyridines by density functional theory and ab initio Hartree-Fock calculations**
Sert Y., Ucun F., BÖYÜKATA M.
INDIAN JOURNAL OF PHYSICS, vol.86, no.10, pp.859-869, 2012 (SCI-Expanded)
- X. **DFT study of Al doped cage B12Hn clusters**
BÖYÜKATA M., GÜVENÇ Z. B.
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.36, no.14, pp.8392-8402, 2011 (SCI-Expanded)
- XI. **Density functional study of AlBn clusters for n=1-14**
BÖYÜKATA M., GÜVENÇ Z. B.
JOURNAL OF ALLOYS AND COMPOUNDS, vol.509, no.11, pp.4214-4234, 2011 (SCI-Expanded)
- XII. **Ab Initio Hartree-Fock and Density Functional Theory Study on Molecular Structures, Energies, and Vibrational Frequencies of 2-Amino-3-, 4-, and 5-Nitropyridine**
SERT Y., UCUN F., BÖYÜKATA M.
ZEITSCHRIFT FÜR NATURFORSCHUNG SECTION A-A JOURNAL OF PHYSICAL SCIENCES, vol.65, pp.107-112, 2010
(SCI-Expanded)
- XIII. **Conformational and vibrational analysis of 2-, 3- and 4-trifluoromethylbenzaldehyde by ab initio Hartree-Fock, density functional theory and Moller-Plesset perturbation theory calculations**
SERT Y., UCUN F., BÖYÜKATA M.
JOURNAL OF MOLECULAR STRUCTURE-THEOCHEM, vol.861, pp.122-130, 2008 (SCI-Expanded)
- XIV. **Molecular Dynamics study of palladium clusters: Size dependent analysis of structural stabilities and energetics of Pd(n) (n <= 40) via a Lennard-Jones type potential**
BÖYÜKATA M., Belchior J. C.
CROATICA CHEMICA ACTA, vol.81, no.2, pp.289-297, 2008 (SCI-Expanded)
- XV. **Determination of chemisorption probabilities of hydrogen molecules on a nickel surface by Artificial Neural Network**
BÖYÜKATA M., Kocayigit Y., GÜVENÇ Z. B.
CROATICA CHEMICA ACTA, vol.81, no.2, pp.305-310, 2008 (SCI-Expanded)
- XVI. **Effects of hydrogen hosting on cage structures of boron clusters: density functional study of B(m)H(n) (m=5-10 and n <= m) complexes**
BÖYÜKATA M., Ozdogan C., Guvenc Z. B.
PHYSICA SCRIPTA, vol.77, no.2, 2008 (SCI-Expanded)
- XVII. **Hydrogen hosting of nanoscale boron cluster**

- BÖYÜKATA M., Ozdogan C., Guvenc Z. B.
ROMANIAN JOURNAL OF INFORMATION SCIENCE AND TECHNOLOGY, vol.11, no.1, pp.59-70, 2008 (SCI-Expanded)
- XVIII. **Structural and energetic analysis of copper clusters: MD study of Cu-n (n=2-45)**
BÖYÜKATA M., Belchior J. C.
JOURNAL OF THE BRAZILIAN CHEMICAL SOCIETY, vol.19, no.5, pp.884-893, 2008 (SCI-Expanded)
- XIX. **An investigation of hydrogen bonded neutral B₄H_n (n=1-11) and anionic B₄H₁₁₍₋₁₎ clusters: Density functional study**
BÖYÜKATA M., Ozdogan C., Guvenc Z. B.
JOURNAL OF MOLECULAR STRUCTURE-THEOCHEM, vol.805, no.1-3, pp.91-100, 2007 (SCI-Expanded)
- XX. **Molecular dynamics study of Ti-n, V-n and Cr-n clusters**
Boeyuekata M.
JOURNAL OF THEORETICAL & COMPUTATIONAL CHEMISTRY, vol.6, no.1, pp.81-97, 2007 (SCI-Expanded)
- XXI. **Structures and energetics of CO₂-Ar-n clusters (n=1-21) based on a non-rigid potential model**
Boeyuekata M., Borges E., Belchior J. C., Braga J. P.
CANADIAN JOURNAL OF CHEMISTRY, vol.85, no.1, pp.47-55, 2007 (SCI-Expanded)
- XXII. **Estimation of cross sections for molecule-cluster interactions by using artificial neural networks**
BÖYÜKATA M., Kocigit Y., Guvenc Z. B.
BRAZILIAN JOURNAL OF PHYSICS, vol.36, no.3A, pp.730-735, 2006 (SCI-Expanded)
- XXIII. **MD study of energetics, melting and isomerization of aluminum microclusters**
BÖYÜKATA M., Guvenc Z. B.
BRAZILIAN JOURNAL OF PHYSICS, vol.36, no.3A, pp.720-724, 2006 (SCI-Expanded)
- XXIV. **Effects of molecular rovibrational states and surface topologies for molecule-surface interaction: Chemisorption dynamics of D(2) collision with rigid Ni surfaces**
BÖYÜKATA M., Guvenc Z. B.
BRAZILIAN JOURNAL OF PHYSICS, vol.36, no.3A, pp.725-729, 2006 (SCI-Expanded)
- XXV. **Lyapunov exponent as an indicator of phase transition in melting Pd-13 clusters**
KURT E., BÖYÜKATA M., Guvenc Z. B.
PHYSICA SCRIPTA, vol.74, no.3, pp.353-361, 2006 (SCI-Expanded)
- XXVI. **Molecular-dynamics study of possible packing sequence of medium size gold clusters: Au-2-Au-43**
BÖYÜKATA M.
PHYSICA E-LOW-DIMENSIONAL SYSTEMS & NANOSTRUCTURES, vol.33, no.1, pp.182-190, 2006 (SCI-Expanded)
- XXVII. **Size evolution of structures and energetics of iron clusters (Fe-n, n <= 36): Molecular dynamics studies using a Lennard-Jones type potential**
BÖYÜKATA M., Borges E., Braga J., Belchior J.
JOURNAL OF ALLOYS AND COMPOUNDS, vol.403, no.1-2, pp.349-356, 2005 (SCI-Expanded)
- XXVIII. **Reaction dynamics of Ni(n) (n=19 and 20) with D(2): Dependence on cluster size, temperature and initial rovibrational states of the molecule**
BÖYÜKATA M., Guvenc Z., ÖZÇELİK S., Durmus P., Jellinek J.
INTERNATIONAL JOURNAL OF MODERN PHYSICS C, vol.16, no.2, pp.295-308, 2005 (SCI-Expanded)
- XXIX. **Dissociative chemisorption of an H-2 (v,j) molecule on rigid Ni (100) surface: Dependence on surface topologies and initial rovibrational states of the molecules**
Evecen M., BÖYÜKATA M., Civi M., Guvenc Z.
CHINESE PHYSICS LETTERS, vol.22, no.2, pp.420-423, 2005 (SCI-Expanded)
- XXX. **Molecule-surface interaction: dissociative chemisorption of a D(2) (v=0, j=0) molecule on rigid low index Ni surfaces**
BÖYÜKATA M., Guvenc Z.
SURFACE SCIENCE, vol.562, no.1-3, pp.183-194, 2004 (SCI-Expanded)
- XXXI. **Structure and reactivity of Ni-n (n=7-14, 19) clusters**
BÖYÜKATA M., Guvenc Z., ÖZÇELİK S., Durmus P., Jellinek J.
INTERNATIONAL JOURNAL OF QUANTUM CHEMISTRY, vol.84, no.2, pp.208-215, 2001 (SCI-Expanded)
- XXXII. **Dynamics of the D(2)+Ni(100) collision system: Analysis of the reactive and inelastic channels**

- BÖYÜKATA M., Guvenc Z., Jackson B., Jellinek J.
INTERNATIONAL JOURNAL OF QUANTUM CHEMISTRY, vol.84, no.1, pp.48-57, 2001 (SCI-Expanded)
- XXXIII. **Reactions of small Ni clusters with a diatomic molecule: MD simulation of D(2)+Ni(n) (n=7-10) systems**
Durmus P., BÖYÜKATA M., ÖZÇELİK S., Guvenc Z., Jellinek J.
SURFACE SCIENCE, vol.454, pp.310-315, 2000 (SCI-Expanded)

Articles Published in Other Journals

- I. **Dezavantajlı Okullarda TÜBİTAK Tarafından düzenlenen Bilim ve Teknoloji Haftası Etkinliklerine İlişkin Öğretmen Görüşleri**
Gökçe Z., Gökçe H., BÖYÜKATA M., GÜNERİ E.
Ordu Üniversitesi Sosyal Bilimler Enstitüsü Sosyal Bilimler Araştırmaları Dergisi, vol.12, no.2, pp.1295-1318, 2022 (Peer-Reviewed Journal)
- II. **Spectroscopic and structural study of the newly synthesized pyrrolo[1,2-a] perimidin-10-one derivatives**
KOCA İ., BÖYÜKATA M., Cinaklı S., Oruc Y., ÜNGÖREN Ş. H.
ORGANIC COMMUNICATIONS, vol.9, no.4, pp.108-118, 2016 (ESCI)
- III. **Fraktal Salkım Oluşumunun Rasgele Yürüyüş Yöntemi ile Modellenmesi**
BÖYÜKATA M., PANDIR D.
İstanbul Kültür Üniversitesi Güncesi (Journal of İstanbul Kültür University), 4, 27-32 (2006), vol.4, pp.27-32, 2006 (Peer-Reviewed Journal)
- IV. **Molecular Dynamics Study on the Structure and Melting of Pd9 Clusters**
KARABACAK M., BÖYÜKATA M., ÖZÇELİK S., GÜVENÇ Z. B., Jellinek J.
Bulgarian Journal of Physics, vol.27, pp.123-126, 2000 (Peer-Reviewed Journal)
- V. **Structure and Dynamics of Pd_13 Clusters**
BÖYÜKATA M., KARABACAK M., ÖZÇELİK S., GÜVENÇ Z. B., Jellinek j.
Bulgarian Journal of Physics, vol.27, pp.110-114, 2000 (Peer-Reviewed Journal)
- VI. **D2 Nin(T), n=7 and 9, Collision System**
BÖYÜKATA M., DURMUŞ P., ÖZÇELİK S., GÜVENÇ Z. B., Jellinek J.
Mathematical and Computational Applications, vol.4, no.1, pp.61-67, 1999 (Scopus)
- VII. **Gamma Işını Buildup Faktörlerinin Su İçerisindeki Değişimlerinin Monte Carlo Bilgisayar Simülasyon Yöntemiyle İncelenmesi**
BÖYÜKATA M., kumru m. n., selvi s.
Celal Bayar Üniversitesi Fen Edebiyat Fakültesi Dergisi, Fen Bilimleri Serisi (Fizik), vol.2, pp.170-176, 1998 (Peer-Reviewed Journal)

Refereed Congress / Symposium Publications in Proceedings

- I. **HF and DFT STUDIES of DISODYUM OKTABORAT TETRAHIDRAT**
çolak b., BÖYÜKATA M.
Seventh Bozok Science Workshop: Boron and Boron Containing Nanomaterials with Applications, Yozgat, Turkey, 8 - 10 August 2018, vol.14, pp.64-65
- II. **A DFT Study of Hexagonal Mg₂ Doped Fluorapatite Mg_xCa_{10-x}(PO₄)₂ (0≤x≤4)**
GÜDER V., BÖYÜKATA M., ŞENTÜRK DALGIÇ S.
Sixth Bozok Science Workshop: Studies from Nuclei to Nanomaterials with Applications (BSW2017), Yozgat, Turkey, 23 - 25 August 2017, vol.13, pp.52-53
- III. **Synthesis, Characterization and Quantum Chemical Calculations of 4-Tert-Butylphenol-Methylboronic Acid and Antioxidant Applications**

- özgen z., TEMEL H., ERTAŞ A., CINAKLI S., BÖYÜKATA M.
 Sixth Bozok Science Workshop: Studies from Nuclei to Nanomaterials with Applications (BSW2017), Yozgat, Turkey, 23 - 25 August 2017, vol.13, pp.47-48
- IV. **Experimental and Quantum Chemical Studies of 2,2'-Bipyridyl-Linked Diamino Compound**
 BEYNEK N., BEYNEK H., CINAKLI S., BÖYÜKATA M.
 Sixth Bozok Science Workshop: Studies from Nuclei to Nanomaterials with Applications (BSW2017), Yozgat, Turkey, 23 - 25 August 2017, vol.13, pp.28
- V. **Bolelli, K., H. Arı, M. Böyükata, İ. Yalçın, O. Ünsalan, "Molecular Structure and Vibrational Spectroscopic Study of 2-[4-(4-Nitrobenzamido)phenyl]benzothiazole using DFT Method**
 BOLELLİ K., ARI H., BÖYÜKATA M., YALÇIN İ., ÜNSALAN O.
 III. International Turkish Congress on Molecular Spectroscopy (TURCMOS2017), Bodrum/Muğla, Turkey, 26 - 29 August 2017, pp.157
- VI. **Cinaklı, S., M. Böyükata, Y. Dağdemir, "HF and DFT Study of Prism Structure of Water Clusters", , 26-29 August 2017, Bodrum.**
 CINAKLI S., BÖYÜKATA M., DAĞDEMİR Y.
 III. International Turkish Congress on Molecular Spectroscopy (TURCMOS2017), Bodrum/Muğla, Turkey, 26 - 29 August 2017, pp.129
- VII. **Density Functional Study of Spin Multiplicity and Molecular Interaction Site Effect on Stability of COAlBn Clusters for n 1 7**
 BÖYÜKATA M., polat i.
 1st International Underground Resources and Energy Conference, Yozgat, Turkey, 6 - 08 October 2016
- VIII. **Radiation Dose Calculation and Correlation with Clinic Effects for Radioactive Iodine Treatment Secondary Salivary Glands and Thyroid Destruction by using MIRD Method**
 şahutoğlu g., aydoğan f., BÖYÜKATA M.
- IX. **HF and DFT Analysis of Structure and Energetics of Zn H₂O n n 1 10**
 CINAKLI S., BÖYÜKATA M., DAĞDEMİR Y.
 Fifth Bozok Science Workshop: Nano Carbon Materials and their Applications, Yozgat, Turkey, 28 - 29 April 2016

Supported Projects

- BÖYÜKATA M., Project Supported by Higher Education Institutions, Gama Radyasyonu Zırhlamasında Alternatif Bir Madde Olarak vermicülitin İncelenmesi, 2012 - 2014
- BÖYÜKATA M., Project Supported by Higher Education Institutions, Üç Tip Metal Katkılı Bor Topaklarının İncelenmesi (Fatih Yalçın*01/02/11), 2011 - 2014
- BÖYÜKATA M., Project Supported by Higher Education Institutions, Molekül Bağlı Bor Nanotoplarının İncelenmesi (Harun Ünsal*01/02/11), 2011 - 2014
- BÖYÜKATA M., Project Supported by Higher Education Institutions, Karbonmonoksit Bağlı Metal Katkılı Borhidrürlerin İncelenmesi (Nejla Özbeý*12/07/10), 2011 - 2014
- BÖYÜKATA M., Project Supported by Higher Education Institutions, Nano Ölçekte Renyum Katkılı Bor ve Bor Katkılı Renyum Topaklarının İncelenmesi (Servet Kurt*12/07/10), 2011 - 2014
- BÖYÜKATA M., Project Supported by Higher Education Institutions, Titanyum Bor Topaklarının İncelenmesi (Muhammed Akar*16/03/2010), 2010 - 2011
- BÖYÜKATA M., Project Supported by Higher Education Institutions, Titanyum Azot Topakları ve Bor Katkılanması (Nur Elmas*16/03/2010), 2010 - 2011

Metrics

Citation (WoS): 296

Citation (Scopus): 243

H-Index (WoS): 11

H-Index (Scopus): 9

Artistic Activity

BÖYÜKATA M., bgnbvncbnm, December 2015

Non Academic Experience

Bozok Üniversitesi, Fen Edebiyat Fak. Fizik Böl.

Erciyes Üniversitesi, Yozgat Fen Edebiyat Fak. Fizik Böl.

Universidade Federal de Minas Gerais

Celal Bayar Üniversitesi, Fen Edebiyat Fak. Fizik Böl.

Gazi Üniversitesi, Fen Bilimleri Enst. Fizik A.B.D.

Celal Bayar Üniversitesi, Fen Edebiyat Fak. Fizik Böl.