

## Prof. ARSLAN ÜNAL

### Personal Information

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### International Researcher IDs

ScholarID: FeJoOC4AAAAJ

ORCID: 0000-0002-5857-7318

Publons / Web Of Science ResearcherID: A-3666-2016

ScopusID: 25931128400

Yoksis Researcher ID: 32223

### Education Information

Doctorate, Anadolu University, Fen Bilimleri Enstitüsü, Atom Ve Molekül Fiziği (Dr), Turkey 2005 - 2010

Doctorate, Sakarya University, Institute Of Science, Fizik (Dr), Turkey 2004 - 2005

Postgraduate, Kütahya Dumlupınar University, Fen Bilimleri Enstitüsü, Fizik (YI) (Tezli), Turkey 2001 - 2004

Undergraduate, Kütahya Dumlupınar University, Fen-Edebiyat Fakültesi, Fizik Bölümü, Turkey 1997 - 2001

### Foreign Languages

English, C2 Mastery

### Dissertations

Doctorate, 3-fenil-1-propilamin molekülünün ve bu molekülden elde edilen bileşiklerin bazı fiziksel özelliklerinin kuantum kimyasal hesaplamalar ve spektroskopik yöntemlerle belirlenmesi, Anadolu University, Fen Bilimleri Enstitüsü, Atom Ve Molekül Fiziği (Dr), 2010

Postgraduate, Parçacık-parçacık kuvvetlerinin iki nötrinolu çift beta geçişlerine etkisinin incelenmesi, Kütahya Dumlupınar University, Fen Bilimleri Enstitüsü, Fizik (YI) (Tezli), 2004

### Research Areas

Atomic and Molecular Physics, General Physics

### Academic and Administrative Experience

Bilecik Seyh Edebali University, 2019 - Continues

Bilecik Seyh Edebali University, 2019 - Continues

Bilecik Seyh Edebali University, 2011 - Continues

Bilecik Seyh Edebali University, 2011 - 2020

## Courses

Enerji Üretimi, Doctorate, 2019 - 2020, 2018 - 2019, 2016 - 2017

Yüksek Lisans Tez Çalışması, Postgraduate, 2019 - 2020, 2018 - 2019, 2017 - 2018, 2016 - 2017, 2015 - 2016

Fizik II, Undergraduate, 2019 - 2020, 2018 - 2019, 2017 - 2018, 2016 - 2017, 2015 - 2016, 2014 - 2015, 2013 - 2014, 2012 - 2013, 2011 - 2012

İleri Atom ve Molekül Fiziği, Postgraduate, 2019 - 2020

Seminer, Postgraduate, 2019 - 2020

Moleküler Hesaplama Yöntemleri, Postgraduate, 2019 - 2020, 2018 - 2019

Fizikte Spektroskopik Yöntemler, Postgraduate, 2019 - 2020, 2018 - 2019

Kuantum Kimyasal Hesaplamalar, Postgraduate, 2019 - 2020

Elektromekanik Enerji Dönüşümü, Postgraduate, 2019 - 2020, 2018 - 2019, 2017 - 2018, 2015 - 2016

İleri Kuantum Fiziği, Postgraduate, 2019 - 2020

Fizik I, Undergraduate, 2019 - 2020, 2018 - 2019, 2017 - 2018, 2016 - 2017, 2015 - 2016, 2014 - 2015, 2013 - 2014, 2012 - 2013, 2011 - 2012

Nükleer Mühendislikte Hesaplamalı Yöntemler, Postgraduate, 2019 - 2020, 2018 - 2019, 2017 - 2018, 2016 - 2017, 2015 - 2016, 2014 - 2015

Uzmanlık Alan Dersi, Postgraduate, 2019 - 2020, 2018 - 2019, 2017 - 2018, 2016 - 2017, 2015 - 2016

Nanoyapılar ve Nanoteknoloji I, Postgraduate, 2018 - 2019

Elektromekanik Enerji Dönüşümü, Undergraduate, 2016 - 2017

Organik Kimyada Spektroskopik Yöntemler, Undergraduate, 2014 - 2015

FİZİK, Undergraduate, 2013 - 2014

TEMEL BİL. TEK. KULLANIMI, Undergraduate, 2011 - 2012

## Published journal articles indexed by SCI, SSCI, and AHCI

- I. **FT-Raman spectroscopic spectra on 3-phenylpropylamine inclusion compounds**  
ÜNAL A., Şentürk Ş., Şenel M.  
Journal of Raman Spectroscopy, vol.42, no.3, pp.558-562, 2011 (SCI-Expanded)
- II. **Vibrational spectroscopic and thermal studies of some 3-phenylpropylamine complexes**  
ÜNAL A., Şentürk Ş., Şenel M.  
Vibrational Spectroscopy, vol.51, no.2, pp.299-307, 2009 (SCI-Expanded)
- III. **Conformational analysis and vibrational spectroscopic investigation of 3-phenylpropylamine**  
ÜNAL A., Şenel M., Şentürk Ş.  
Vibrational Spectroscopy, vol.50, no.2, pp.277-284, 2009 (SCI-Expanded)
- IV. **Molecular structure, NMR analyses, density functional theory and ab initio Hartree-Fock calculations of 3-phenylpropylamine**  
Şenel M., ÜNAL A., Alver Ö.  
Comptes Rendus Chimie, vol.12, no.6-7, pp.808-815, 2009 (SCI-Expanded)
- V. **The effect of the pairing interaction on the energies of isobar analogue resonances in 112-124Sb and isospin admixture in 100-124Sn isotopes**  
Babacan T., Salamov D., Küçükburşa A., Babacan H., Maras I., Aygör H. A., ÜNAL A.  
Journal of Physics G: Nuclear and Particle Physics, vol.30, no.6, pp.759-770, 2004 (SCI-Expanded)

## Refereed Congress / Symposium Publications in Proceedings

- I. **NONLINEAR OPTICAL PROPERTIES (NLO), HOMO-LUMO MOLECULAR ORBITAL ENERGIES AND REACTIVITY DESCRIPTORS OF SOME TRIMETHYLTETRATHIAFULVALENYLTHIOPHENE MOLECULES (TMETTF-TP)**  
ÜNAL A., ALYAR H., ALYAR S.  
2nd International Turkish World Engineering and Science Congress, Antalya, Turkey, 7 - 10 October 2019, pp.249
- II. **INVESTIGATION OF ELECTRONIC AND NONLINEAR OPTICAL PROPERTIES (NLO) OF A NEW PYRETHROID MOLECULE: RU60358**  
ÜNAL A., ALYAR S., ALYAR H.  
2nd International Turkish World Engineering and Science Congress, Antalya, Turkey, 7 - 10 October 2019, pp.216-223
- III. **Determination of the Structure Of (Z) -N- (3,4-Dimethylisoxazol-5-YL) -4- (2-Hydroxy-5-Methylbenzylidene) Amino) Benzenesulfonamide Molecule By Spectroscopic (X-RD, FT-IR, NMR) Methods**  
CANGÜL B., ÜNAL A., ALYAR S., ALYAR H.  
Adım Physics Days VIII, Bilecik, Turkey, 12 - 15 September 2019, pp.79-86
- IV. **A DFT Optical Activity Study of Lithium-Fluoride Clusters**  
ÜNAL A., GÜVENİR S.  
Adım Physics Days VIII, Bilecik, Turkey, 12 - 15 September 2019, pp.76-77
- V. **The Relative Stability of One Iodine Doped Lithium Clusters**  
ÜNAL A., AYIN Ö.  
Adım Physics Days VIII, Bilecik, Turkey, 12 - 15 September 2019, pp.75
- VI. **DFT Calculations On Spectroscopic And Structural Properties Of MgCl<sub>2</sub>.6H<sub>2</sub>O.C<sub>2</sub>H<sub>4</sub>(OH)<sub>2</sub>**  
OKUR M., ALBAYRAK N., ÜNAL A., ATALAY Y.  
Adım Physics Days VIII, Bilecik, Turkey, 12 - 15 September 2019, pp.69
- VII. **Structural and Spectroscopic Investigations of 2-Methyl-Pyridinium Picrate**  
ALBAYRAK N., OKUR M., ÜNAL A., BAŞOĞLU A., ATALAY Y.  
Adım Physics Days VIII, Bilecik, Turkey, 12 - 15 September 2019, pp.64
- VIII. **Homo-Lumo, Nlo And Mep Analysis Of (Z) -N- (3,4-Dimethylisoxazol-5-Yl) -4- (2-Hydroxy-5-Methylbenzylidene) Amino) Benzenesulfonamide Molecule By DFTMethod**  
CANGÜL B., ÜNAL A., ALYAR S., ALYAR H.  
Adım Physics Days VIII, Bilecik, Turkey, 12 - 15 September 2019, pp.87-94
- IX. **A Study on Nonlinear Optical Properties and Spectroscopic of L-Pronilium Picrate**  
ALBAYRAK N., OKUR M., ÜNAL A., BAŞOĞLU A., ATALAY Y.  
Adım Physics Days VIII, Bilecik, Turkey, 12 - 15 September 2019, pp.70
- X. **A Study On Spectroscopic and Nonlinear Optical Properties of [Li(C<sub>8</sub>H<sub>5</sub>Cl<sub>2</sub>O<sub>2</sub>)(C<sub>12</sub>H<sub>8</sub>N<sub>2</sub>)(H<sub>2</sub>O)]**  
OKUR M., ALBAYRAK N., ÜNAL A., ATALAY Y.  
Adım Physics Days VIII, Bilecik, Turkey, 12 - 15 September 2019, pp.72
- XI. **CHARACTERIZATION, VIBRATIONAL AND NMR SPECTROSCOPICSTUDY OF 2 DIETHYL 2,2'-xx-(PIPERAZINE-1,4-DIYL)DIACETATEMOLECULE**  
ÜNAL A., ÖZBEK N., ALYAR S., ALYAR H.  
1st International Turkish World Engineering and Science Congress, Antalya, Turkey, 7 - 10 December 2017, pp.242
- XII. **INVESTIGATION OF SPECTROSCOPIC, ELECTRONIC ANDNONLINEAR OPTICAL (NLO) PROPERTIES OF2,5 DICHLORONITROBENZENE**  
ÜNAL A., ALYAR H., ALYAR S.  
1st International Turkish World Engineering and Science Congress, Antalya, Turkey, 7 - 10 December 2017, pp.244
- XIII. **COMPUTATIONAL STUDIES OF N'-ACETYL PROPANESULFONIC ACIDE HYDRAZIDE**  
ÜNAL A., ALYAR S., ALYAR H., ÖZDEMİR ÖZMEN Ü.  
1st International Turkish World Engineering and Science Congress, Antalya, Turkey, 7 - 10 December 2017, pp.243
- XIV. **SPECTROSCOPIC AND COMPUTATIONAL STUDIES ON1-BENZOFURAN-2-CARBOXYLIC ACID**  
ÜNAL A., ALYAR H., ALYAR S.  
1st International Turkish World Engineering and Science Congress in Antalya, Antalya, Turkey, 7 - 10 December

2017, pp.246

- XV. **ELECTRONIC CHARACTERISTICS AND NONLINEAR OPTICAL PROPERTIES OF DIETHYL 2,2'-xx-(PIPERAZINE-1,4-DIYL) DIACETATE COMPONENT**  
ÜNAL A., ÖZBEK N., ALYAR S., ALYAR H.  
1st International Turkish World Engineering and Science Congress, Antalya, Turkey, 7 - 10 December 2017, pp.241
- XVI. **VIBRATIONAL ASSIGNMENT AND SOME DFT STUDIES OF 2-THIOPHENE CARBOXYLIC ACID**  
ÜNAL A., ALYAR H., ALYAR S.  
1st International Turkish World Engineering and Science Congress, Antalya, Turkey, 7 - 10 December 2017, pp.247
- XVII. **INVESTIGATION OF VIBRATIONAL ASSIGNMENT AND ELECTRONIC PROPERTIES OF 4,4'-xx-DIAMINODIPHENYLOXIDE BY DFT METHOD**  
ÜNAL A., ALYAR H., ALYAR S.  
1st International Turkish World Engineering and Science Congress, Antalya, Turkey, 7 - 10 December 2017, pp.245
- XVIII. **GÜÇLÜ KORELASYONLU PLEGZİTONİK BİR SİSTEMDE FANO REZONANSININ ELEKTRON-FONON EŞLEŞMESİ YOLUYLA BASTIRILMASI**  
GÖKER A. İ., ÜNAL A.  
ADIM FİZİK GÜNLERİ VI, Balıkesir, Turkey, 19 - 21 July 2017, pp.150
- XIX. **L-histidine maleate üzerinde teorik bir çalışma**  
OKUR M., ÜNAL A., ATALAY Y.  
ADIM FİZİK GÜNLERİ VI, Balıkesir, Turkey, 19 - 21 July 2017, pp.146
- XX. **GEOMETRIES AND ELECTRONIC STRUCTURES OF LinF CLUSTERS**  
ÜNAL A., KOTAN B.  
Turkish Physical Society 33rd International Physics Congress, Bodrum, Turkey, 6 - 10 September 2017, pp.558
- XXI. **Conformational analysis and h-DFT study of N,N'- phenylene-diylbis[3-(1-aminoethyl)-6-methyl-2H-pyran-2,4(3H)-dione]**  
OKUR M., ÜNAL A., ATALAY Y.  
3rd International Turkish Congress on Molecular Spectroscopy (TURCMOS2017), 26 - 29 August 2017
- XXII. **Density functional theory calculations on spectroscopic and electrical properties of N,N'- propylene-diylbis[3-(1-aminoethyl)-6-methyl-2H-pyran-2,4(3H)-dione]: a potential nonlinear optical material**  
OKUR M., ÜNAL A., ATALAY Y.  
3rd International Turkish Congress on Molecular Spectroscopy (TURCMOS2017), 26 - 29 August 2017
- XXIII. **Theoretical and experimental vibrational spectroscopy study on rotational isomer of 4-phenylbutylamine**  
ÜNAL A., OKUR M.  
Turkish Physical Society 32nd International Physics Congress, TPS 2016, Konacık-Bodrum, Turkey, 6 - 09 September 2016, vol.1815
- XXIV. **Molecular Structure and Vibrational Spectroscopic Analysis of Tetracyanomercurate II Ion**  
ÜNAL A., OKUR M.  
International Conference on Quantum Science and Applications (ICQSA-2016), Eskişehir, Turkey, 25 - 27 May 2016, pp.128
- XXV. **Theoretical Conformational Analysis of 4 phenylbutylamine**  
OKUR M., ÜNAL A.  
9th INTERNATIONAL PHYSICS CONFERENCE OF THE BALKAN PHYSICAL UNION, İstanbul, Turkey, 24 - 27 August 2015, pp.375
- XXVI. **Experimental and Spectroscopic Studies on 2 Thiophen 2 YL 1H Benzimidazole**  
EREN B., ÜNAL A., SARIHAN A.  
7th Eurasian Meeting on Heterocyclic Chemistry, 17 - 21 June 2012

## Supported Projects

ÜNAL A., Project Supported by Higher Education Institutions, Akrilik Asit Aşılınmış PVDF Malzemelerinin Hazırlanması

