



Prof. NECATİ KAYA

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Publons / Web Of Science ResearcherID: A-4334-2018

ScopusID: 15839693900

Yoksis Researcher ID: 243400



Biography

Dr. Necati Kaya is a Professor in the Department of Material Science and Engineering at Çanakkale Onsekiz Mart University, Çanakkale, Türkiye. He received his Ph.D. degree in physics with an emphasis on atomic, molecular, and optical physics (AMO) from the Texas A&M University, College Station, TX, USA and the M.S. degree in physics with an emphasis in Atomic and molecular physics from Karadeniz Technical University, Turkey. His research interests lie in the broad areas of optics and photonics, nonlinear optics, lasers, optical materials and devices, optoelectronic materials and devices, atomic and molecular physics, atomic spectra and photon interactions, molecular properties and interactions with photon, optics.

Specifically, his research focuses on the following areas: (1) Photonics, Quantum Optics and Optical spectroscopy, Ultrafast optics, (2) Nonlinear Optics, Kerr Effects, Femtosecond laser filamentation, White-light generation, (3) Femto-Attosecond intense laser field optics, (4) Femtosecond Lasers Systems including oscillators, amplifiers, OPAs and diagnostic equipment such as CCD cameras, spectrometers, autocorrelators and FROG devices, (5) Laser, Fiber lasers, (6) Ion optics systems under ultra-high vacuum, Sensitive mass spectroscopy, Velocity map imaging spectroscopy, (7) Ultra-sensitive absorption spectroscopies (Mid-IR frequency comb, Ring down cavity, multi-pass, Wavelength modulation Spectroscopy etc.), (8) ATI-Above Threshold Ionization, MPI-Multiphoton Ionization, HHG-High harmonic generation, (9) Field free (nonadiabatic) molecular alignment, (9) CGH-Computer Generated Holography, (10) Femtosecond laser beam characterization, (11) Photofragmentation of molecules in intense laser fields

Dr. Kaya has published one book chapter and more than 30 papers in scientific journals such as Optics Express, Physical Review A, Applied Physics B: Lasers and Optics, Chemical Physics, AIP Advances, Review of Scientific Instruments, Journal of Physics B: Atomic, Molecular and Optical Physics, Optik, Optical Engineering, Lasers In Engineering, International Journal of Organic Chemistry, Nuclear Instruments and Methods in Physics Research B, Journal of Radioanalytical and Nuclear Chemistry, The European Physical Journal D, Radiation Physics and Chemistry, Acta Physica Polonica A, Journal of The Physical Society of Japan, Physica Scripta, International Journal of Thermophysics, International Journal of Laser Science: Fundamental Theory and Analytical Methods, International Journal of Organic Chemistry.

Dr Kaya has participated in more than 65 international congresses such as IHTEC-2022 (The Sixth International Hydrogen Technologies Congress, Çanakkale, Turkey), TFD38 (Turkish Physical Society 38th International Physics Congress, Muğla, Turkey), IGCC2021 (International Global Climate Change, Çanakkale Turkey), PCFM21 (Physical Chemistry and Functional Materials, Elazığ, Turkey), IISRC2021 (3rd International Istanbul Scientific Research Congress, Istanbul, Turkey), TFD36 (Turkish Physical Society 36th International Physics Congress, Muğla, Turkey), TFD 35 (Turkish Physical Society 35th International Physics Congress, Muğla, Turkey), ISLC2020 (International Sustainable Living Conference), CLEO/Europe-EQEC 2017 (Conference on Lasers and Electro-Optics Europe & European Quantum

Electronics Conference, Munich, Germany), TURCMOS 2017 (The 3rd International Turkish Congress on Molecular Spectroscopy, Bodrum, Turkey), TFD33 (Turkish Physical Society 33rd International Physics Congress (2017), Bodrum, Turkey), TFD32 (Turkish Physical Society 32nd International Physics Congress (2016), Bodrum, Turkey), LPHYS 2016 (25th Annual International Laser Physics Workshop, 2016), ARC 2016 (The Qatar Foundation Annual Research Conference 2016, Doha, Qatar), The 5th annual Research-Industry Partnership Showcase, 2016, Doha, Qatar, ATTO 2015 (5th international conference on attosecond physics, Quebec, Canada), APS 2015 (American Physical Society, Spring 2015 Joint Meeting of the Texas Section of the AAPT, Texas Section of the APS and Zone 13 of the Society of Physics Students, Baytown Station, TX, USA), APS 2014 (American Physical Society, Fall 2014 Joint Meeting of the Texas Section of the AAPT, Texas Section of the APS and Zone 13 of the Society of Physics Students, College Station, TX, USA), ICAP 2014 (24th International Conference on Atomic Physics, Washington D.C., USA), ICAP 2012 (The 23rd International Conference on Atomic Physics, Palaiseau, France), TFD (Turkish Physical Society 24th International Physics Conference, Malatya, Turkey), BPU6 (6th International Conference of The Balkan Physical Union, Istanbul, Turkey), and others.

He also serves as a reviewer and reviews many manuscripts for more than 20 journals. Dr. Kaya has also reviewed proposals for many funding agencies such as TUBİTAK, BAP, Technoparks etc. He also served on proposal review panels for the TUBİTAK. Dr. Kaya's research has been sponsored by the Scientific and Technological Research Council of Turkiye (TUBITAK), Robert Welch Foundation, National Science Foundation (NSF), USA and Qatar National Research Fund (QNRF). He is a member of Optical Society of America (OSA), American Physical Society (APS) and National Hydrogen Association.

Education Information

- I. Post Doctorate, Texas A&M University, Science Program And Petroleum Engineering Program, Physics, Petroleum Engineering, United States Of America 2015 - 2017
- II. Doctorate, Texas A&M University, College Of Science, Department Of Physics&Astronomy, United States Of America 2010 - 2014
- III. Postgraduate, Karadeniz Technical University, Fen Bilimleri, Fizik, Turkey 2003 - 2006
- IV. Undergraduate, Karadeniz Technical University, Fen Edebiyat Fakultesi, Fizik, Turkey 1998 - 2002

Foreign Languages

- I. English, C1 Advanced

Certificates, Courses and Trainings

- I. Occupational Health and Safety, Velosi gas safety, Texas A&M University, 2011
- II. Education Management and Planning, Energy workshop/field trip, Texas A&M University & State Energy Conservation Office, 2010
- III. Education Management and Planning, Laser Safety Training, Texas A&M University, 2010
- IV. Foreign Language, IECP-Intensive English Communication Program, Penn State University, 2009

Dissertations

- I. Doctorate, FILAMENTATION AND WHITE LIGHT GENERATION WITH SPATIALLY AND TEMPORALLY CONTROLLED FEMTOSECOND RADIATION, Texas A&M University, Science, Physics&Astronomy, 2014
- II. Postgraduate, 69=Z=76 ATOM NUMARALI ELEMENTLERİN K TABAKASI SOĞURMA-SIÇRAMA FAKTÖRLERİNİN TAYİNİ, Karadeniz Technical University, Fen Bilimleri, Fizik, 2006

Research Areas

Optics and Photonics, Renewable energy, Lasers and Masers, Optical Materials and Devices, Optoelectronic Materials and Devices, Atomic and Molecular Physics, Atomic Spectra and Photon Interactions, Molecular Properties and Interactions with Photon, Optics

Academic Titles / Tasks

- I. Professor, Canakkale Onsekiz Mart University, Mühendislik Fakültesi, Malzeme Bilimi Ve Mühendisliği, 2023 - Continues
- II. Associate Professor, Canakkale Onsekiz Mart University, Çanakkale Uygulamalı Bilimler Fakültesi, Enerji Yönetimi, 2018 - 2023
- III. Assistant Professor, Giresun University, Fen Edebiyat Fakültesi, Fizik, 2016 - 2017
- IV. Assistant Professor, Texas A&M University, College Of Science, Department Of Physics&Astronomy, 2015 - 2017
- V. Research Assistant, Texas A&M University, College Of Science, Physics&Astronomy, 2010 - 2014
- VI. Research Assistant, Karadeniz Technical University, Fen Bilimleri Enst, Fizik, 2005 - 2008

Academic and Administrative Experience

- I. Deputy Head of Department, Canakkale Onsekiz Mart University, Mühendislik Fakültesi, Malzeme Bilimi ve Mühendisliği, 2021 - Continues
- II. Head of Department, Canakkale Onsekiz Mart University, Lisansüstü Eğitim Enstitüsü, 2020 - Continues
- III. Director of the Center, Canakkale Onsekiz Mart University, Rektörlüğe Bağlı Bölümler, 2020 - Continues
- IV. Head of Department, Canakkale Onsekiz Mart University, Çanakkale Uygulamalı Bilimler Fakültesi, 2018 - 2020
- V. Head of Department, Canakkale Onsekiz Mart University, Çanakkale Uygulamalı Bilimler Fakültesi, 2018 - 2020

Courses

- I. İleri Optoelektronik ve Fotonik Teknolojileri, Doctorate, 2021 - 2022
- II. Nanoteknoloji, Undergraduate, 2021 - 2022
- III. Güneş Enerjisi: Fotovoltaik Enerji Dönüşümü, Teknolojiler ve Sistemler, Doctorate, 2020 - 2021
- IV. Optoelektronik ve Fotonik: İlkeler ve Uygulamalar, Postgraduate, 2019 - 2020
- V. Güneş Enerjisi Temelleri, Postgraduate, 2019 - 2020
- VI. Enerji Kaynakları Fizigi, Postgraduate, 2018 - 2019
- VII. Lazer Spektroskopisi, Doctorate, 2018 - 2019
- VIII. Enerjiye Giriş, Postgraduate, 2018 - 2019
- IX. Nonlinear Optics, Doctorate, 2018 - 2019
- X. İleri Optik ve Fotonik, Doctorate, 2018 - 2019
- XI. Fizik, Undergraduate, 2018 - 2019

Advising Theses

- I. Kaya N., Monokristal ve Polikristal Fotovoltaik Güneş Panellerinin Dalga Boyuna Bağlı Performans Analizleri, Postgraduate, S.GÖKÇEN(Student), 2021
- II. Kaya N., Atmosferik düzeyde metan ölçümleri için ultra-hassas optik sensör tasarımı, Postgraduate, A.KESKİN(Student), 2021

Jury Memberships

- I. Doctoral Examination, Doktora yeterlilik sinavi, Çanakkale Onsekiz Mart Üniversitesi Fen Bilimleri Enstitüsü, Fizik Anabilim Dalı,, June, 2018
- II. Doctoral Examination, Doktora yeterlilik sinavi, Çanakkale Onsekiz Mart Üniversitesi Fen Bilimleri Enstitüsü, Fizik Anabilim Dalı, September, 2017
- III. Post Graduate, Yuksek Lisans Tez Savunma sinav Juri uyeligi, Çanakkale Onsekiz Mart Üniversitesi Fen Bilimleri Enstitüsü, Fizik Anabilim Dalı, August, 2017
- IV. Appointment to Academic Staff-Assistant Professorship, Elektronik ve Otomasyon Bölümü, Deniz Teknolojileri MYO, ogretim elemani atama sinavi, Çanakkale Onsekiz Mart Üniversitesi, Deniz Teknolojileri MYO, July, 2017
- V. Doctorate, Doktora tez savunma jurisi, Çanakkale Onsekiz Mart Üniversitesi Fen Bilimleri Enstitüsü, Fizik Anabilim Dalı, June, 2017
- VI. Doctorate, Doktora Tez Savunma Jurisi, Çanakkale Onsekiz Mart Üniversitesi Fen Bilimleri Enstitüsü, Fizik Anabilim Dalı, June, 2017
- VII. Doctorate, Doktora Tez Savunma Jurisi, Çanakkale Onsekiz Mart Üniversitesi Fen Bilimleri Enstitüsü, Fizik Anabilim Dalı, June, 2017

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Preface to the special issue on ‘The Sixth International Hydrogen Technologies Congress (IHTEC-2022)’**
KOYUNCU S., KAYA N.
International Journal of Hydrogen Energy, vol.48, no.60, pp.22719, 2023 (SCI-Expanded)
- II. **Controlling Femtosecond Laser Filaments via Quasi-Hermite Gaussian Beam Modes**
Kaya N., Kaya G., Kolomenskii A., Schuessler H.
ACTA PHYSICA POLONICA A, vol.141, no.1, pp.1-7, 2022 (SCI-Expanded)
- III. **Design of a New Ultra-sensitive Methane Sensor Based On Optical Approaches that Utilize Laser Diodes**
Keskin A., Kaya N., Kaya G.
Lasers In Engineering, vol.51, no.1-5, pp.205-215, 2021 (SCI-Expanded)
- IV. **Diffraction multifocal lenses by computer-generated holograms**
Kaya N., Kaya G., Strohaber J., Zhou J., Kolomenski A., Schuessler H. A.
OPTICAL ENGINEERING, vol.60, no.5, 2021 (SCI-Expanded)
- V. **Energy and angular distributions of electrons from sodium atoms photo-ionized with femtosecond laser pulses**
BORAN Y., Hart N., KAYA N., Zhou J., kolomenski A., Schuessler H. A.
Journal of Physics B: Atomic, Molecular and Optical Physics, 2021 (SCI-Expanded)
- VI. **In-situ measurement of aligning intensity and rotational temperature in field-free molecular alignment via white light generation**
Kaya N., Kaya G., Boran Y., Kolomenski A., Schuessler H. A.
Optik, vol.242, no.167360, pp.1-8, 2021 (SCI-Expanded)
- VII. **Sensitive Spectroscopic Analysis of Biomarkers in Exhaled Breath**
Bicer A., Bounds J., Zhu F., Kolomenskii A. A., KAYA N., Aluauee E., Amani M., Schuessler H. A.
INTERNATIONAL JOURNAL OF THERMOPHYSICS, vol.39, no.6, 2018 (SCI-Expanded)
- VIII. **Dissociative ionization of acetonitrile in intense femtosecond laser fields**
Boran Y., Kolomenskii A. A., Sayrac M., Kaya N., Schuessler H. A., Strohaber J.
JOURNAL OF PHYSICS B-ATOMIC MOLECULAR AND OPTICAL PHYSICS, vol.50, no.13, 2017 (SCI-Expanded)
- IX. **Time slicing in 3D momentum imaging of the hydrogen molecular ion photo-fragmentation**
KAYA N., Kaya G., Pham F. V., Strohaber J., Kolomenskii A. A., Schuessler H. A.

REVIEW OF SCIENTIFIC INSTRUMENTS, vol.88, no.2, 2017 (SCI-Expanded)

- X. **Nonadiabatic molecular alignment of linear molecules probed by strong-field ionization yields of photoelectrons**
Kaya G., Kaya N., Strohaber J., Hart N. A., Kolomenskii A. A., Schuessler H. A.
APPLIED PHYSICS B-LASERS AND OPTICS, vol.122, no.12, 2016 (SCI-Expanded)
- XI. **Effect of circularly polarized femtosecond laser pulses on alignment dynamics of linear molecules observed by strong-field photoelectron yields**
KAYA N., Kaya G., STROHABER J., Kolomenskii A. A., Schuessler H. A.
EUROPEAN PHYSICAL JOURNAL D, vol.70, no.10, 2016 (SCI-Expanded)
- XII. **Extension of filament propagation in water with Bessel-Gaussian beams**
Kaya G., KAYA N., Sayrac M., Boran Y., Strohaber J., Kolomenskii A. A., Amani M., Schuessler H. A.
AIP ADVANCES, vol.6, no.3, 2016 (SCI-Expanded)
- XIII. **Probing nonadiabatic molecular alignment by spectral modulation**
Kaya N., Kaya G., Sayrac M., Horan Y., Anumula S., Strohaber J., Kolomenskii A. A., Schuessler H. A.
OPTICS EXPRESS, vol.24, no.3, pp.2562-2576, 2016 (SCI-Expanded)
- XIV. **White-light generation control with crossing beams of femtosecond laser pulses**
Kolomenskii A. A., STROHABER J., KAYA N., Kaya G., Sokolov A. V., Schuessler H. A.
OPTICS EXPRESS, vol.24, no.1, pp.282-293, 2016 (SCI-Expanded)
- XV. **Pressure optimization of high harmonic generation in a differentially pumped Ar or H-2 gas jet**
Sayrac M., Kolomenskii A. A., Anumula S., Boran Y., Hart N. A., KAYA N., Strohaber J., Schuessler H. A.
REVIEW OF SCIENTIFIC INSTRUMENTS, vol.86, no.4, 2015 (SCI-Expanded)
- XVI. **Intensity-resolved above-threshold ionization of xenon with short laser pulses**
Hart N. A., Strohaber J., Kaya G., Kaya N., Kolomenskii A. A., Schuessler H. A.
PHYSICAL REVIEW A, vol.89, no.5, 2014 (SCI-Expanded)
- XVII. **White-light generation using spatially-structured beams of femtosecond radiation**
Kaya N., Strohaber J., Kolomenskii A. A., Kaya G., Schroeder H., Schuessler H. A.
OPTICS EXPRESS, vol.20, no.12, pp.13337-13346, 2012 (SCI-Expanded)
- XVIII. **In situ tomography of femtosecond optical beams with a holographic knife-edge**
Strohaber J., Kaya G., Kaya N., Hart N., Kolomenskii A. A., Paulus G. G., Schuessler H. A.
OPTICS EXPRESS, vol.19, no.15, pp.14321-14334, 2011 (SCI-Expanded)
- XIX. **Measurement of K-shell jump ratios and jump factors for some elements in $76 \leq Z \leq 92$ using EDXRF spectrometer**
KAYA N., APAYDIN G., TIRAŞOĞLU E.
RADIATION PHYSICS AND CHEMISTRY, vol.80, no.6, pp.677-681, 2011 (SCI-Expanded)
- XX. **An L-III ($2P(3/2)$) subshell absorption jump ratio and jump factor for bismuth**
KAYA N., Koby A. I., TIRAŞOĞLU E., APAYDIN G.
JOURNAL OF PHYSICS B-ATOMIC MOLECULAR AND OPTICAL PHYSICS, vol.41, no.22, 2008 (SCI-Expanded)
- XXI. **Chemical effects on K and L shell production cross sections and transfer probabilities in Nb compounds**
Cengiz E., Aylikci V., KAYA N., APAYDIN G., TIRAŞOĞLU E.
JOURNAL OF RADIOANALYTICAL AND NUCLEAR CHEMISTRY, vol.278, no.1, pp.89-96, 2008 (SCI-Expanded)
- XXII. **Investigation of Coster-Kronig transition probabilities ($L-1 \rightarrow L-2$, $L-1 \rightarrow L-3$, and $L-2 \rightarrow L-3$) for Hf and Hf compounds**
Cengiz E., APAYDIN G., Aylikci V., KAYA N., TIRAŞOĞLU E.
JOURNAL OF THE PHYSICAL SOCIETY OF JAPAN, vol.77, no.5, 2008 (SCI-Expanded)
- XXIII. **Determination of K shell absorption jump factors and jump ratios in the elements between Tm($Z=69$) and Os($Z=76$) by measuring K shell fluorescence parameters**
KAYA N., TIRAŞOĞLU E., APAYDIN G.
NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION B-BEAM INTERACTIONS WITH MATERIALS AND ATOMS, vol.266, no.7, pp.1043-1048, 2008 (SCI-Expanded)
- XXIV. **K shell, L shell-subshell and M shell-subshell photoeffect cross-sections in elements between Tb**

(Z=65) and U (Z=92) at 123.6 keV

KAYA N., APAYDIN G., Aylikci V., Cengiz E., TIRAŞOĞLU E.

RADIATION PHYSICS AND CHEMISTRY, vol.77, no.2, pp.101-106, 2008 (SCI-Expanded)

- XXV. **K-shell absorption jump factors and jump ratios in elements between Tm (Z=69) and Os (Z=76) derived from new mass attenuation coefficient measurements**

KAYA N., TIRAŞOĞLU E., Apaydin G., AYLIKCI V., CENGİZ E.

NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION B-BEAM INTERACTIONS WITH MATERIALS AND ATOMS, vol.262, no.1, pp.16-23, 2007 (SCI-Expanded)

- XXVI. **Chemical effect on the K and L shell intensity ratios of Hf compounds**

AYLIKCI V., TIRAŞOĞLU E., APAYDIN G., Kaya N., CENGİZ E.

PHYSICA SCRIPTA, vol.76, no.1, pp.31-36, 2007 (SCI-Expanded)

- XXVII. **Chemical effect on the L X-ray cross-sections and average fluorescence yields of Hf compounds**

AYLIKCI V., APAYDIN G., TIRAŞOĞLU E., KAYA N., CENGİZ E.

CHEMICAL PHYSICS, vol.332, pp.348-352, 2007 (SCI-Expanded)

Articles Published in Other Journals

- I. **Color filter effects on the performance of monocrystalline and polycrystalline photovoltaic solar panels**
Gökçen S., Kaya N.
International Journal of Energy Applications and Technologies , vol.10, no.1, pp.14-20, 2023 (Peer-Reviewed Journal)
- II. **Direct Mass Spectroscopy Analysis and Comparison of Middle Eastern and Texas Crude Oils**
Kaya G., Kaya N., Amanı M., Rahman A., Kolomenski A., Schuessler H.
International Journal of Organic Chemistry, vol.7, no.4, pp.312-318, 2017 (Peer-Reviewed Journal)
- III. **Field-free molecular alignment control of filamentation**
KAYA N.
TURKISH JOURNAL OF PHYSICS, vol.41, no.3, pp.196-202, 2017 (ESCI)

Books & Book Chapters

- I. **Nonadiabatic Molecular Alignment of Linear Molecules Probed by Strong-Field Ionization Yields of Photoelectrons**
KAYA N., KAYA G., Strohaber J., Hart N., Kolomenski A., Schuessler H.
in: Exploring the World with the Laser, Dieter Meschede, Thomas Udem, Tilman Esslinger, Editor, Springer, Cham, pp.577-595, 2018
- II. **Nonadiabatic Molecular Alignment of Linear Molecules Probed by Strong-Field Ionization Yields of Photoelectrons**
KAYA G., KAYA N., Strohaber J., Hart N., Kolomenskii A., Schuessler H.
in: Exploring the World with the Laser, Dieter Meschede, Thomas Udem, Tilman Esslinger, Editor, Springer, Cham, pp.577-595, 2018

Refereed Congress / Symposium Publications in Proceedings

- I. **Long-distance Wireless Energy Transmission by Holographically Generated Laser Beams Modes**
Kaya N., Sönmez F.
TURKISH PHYSICAL SOCIETY 38 TH INTERNATIONAL PHYSICS CONGRESS, AUGUST 31 -SEPTEMBER 4, 2022,

- II. **EFFECT OF COLOR FILTERS ON THE PERFORMANCE OF MONOCRYSTALLINE AND POLYCRYSTALLINE PHOTOVOLTAIC SOLAR PANELS**
Kaya G., Gökçen S., Kaya N.
TURKISH PHYSICAL SOCIETY 37TH INTERNATIONAL PHYSICS CONGRESS, Muğla, Turkey, 1 - 05 September 2021, pp.127
- III. **Creating airy beams as directed and concentrated energy**
KAYA G., AVCI S., KAYA N., KURT A., KURT M.
INTERNATIONAL GLOBAL CLIMATE CHANGE CONGRESS, Çanakkale, Turkey, 3 - 05 June 2021
- IV. **Creating Airy beams as directed and concentrated energy**
KAYA G., AVCI S., KAYA N., KURT A., KURT M.
INTERNATIONAL GLOBAL CLIMATE CHANGE CONGRESS, Çanakkale, Turkey, 03 June 2021
- V. **Study of wireless energy transmission by different laser modes**
Kaya N., Kaya G.
INTERNATIONAL GLOBAL CLIMATE CHANGE CONGRESS, Çanakkale, Turkey, 03 June 2021
- VI. **Generation of Programmable Diffractive Multi-Focal Lenses**
KAYA N., KAYA G.
4th International Conference on Physical Chemistry and Functional Materials (PCFM'21), Elazığ, Turkey, 08 April 2021
- VII. **Comparison of Effect of Monocrystalline and Polycrystalline Solar Panels on Energy Outputs using Linear Regression Analysis**
Gökçen S., KAYA N.
3rd International Istanbul Scientific Research Congress, İstanbul, Turkey, 08 January 2021
- VIII. **The Future and Employment of Renewable Energy**
Gökçen S., KAYA N.
International Sustainability Living Conference on Rating Academy, Çanakkale, Turkey, 24 December 2020
- IX. **Efficiency analysis of photovoltaic solar panels with monocrystalline and polycrystalline**
Gökçen S., KAYA N.
36th International Physics Congress on Turkish Physical Society (TFD), Muğla, Turkey, 01 September 2020
- X. **Femtosecond laser-induced filamentation control in liquids.**
KESKİN A., KAYA G., KAYA N.
TFD35:Turkish Physical Society 35. International Physics Congress, Bodrum, Turkey, 4 - 08 September 2019
- XI. **Generation of programmable diffractive lenses with multiple or multi-optical axes, multi-focus, dynamic distance control of focal lengths and energy intensities at foci.**
ÇELİK G., KAYA G., KURT M., KAYA N.
TFD35:Turkish Physical Society 35. International Physics Congress, Bodrum, Turkey, 4 - 08 September 2019
- XII. **Design of an ultra-sensitive optical sensor for atmospheric level methane measurement.**
KESKİN A., KAYA G., KAYA N.
TFD35:Turkish Physical Society 35. International Physics Congress, Bodrum, Turkey, 4 - 08 September 2019
- XIII. **Femtosecond Laser-Induced Filamentation Control in Liquids**
Keskin A., KAYA G., KAYA N.
TURKISH PHYSICAL SOCIETY 35th INTERNATIONAL PHYSICS CONGRESS (TPS35), 4 - 08 September 2019, vol.1, pp.50-53
- XIV. **Design of an Ultra-Sensitive Optical Sensor for Atmospheric Level Methane Measurement**
KESKİN A., KAYA G., KAYA N.
TURKISH PHYSICAL SOCIETY 35th INTERNATIONAL PHYSICS CONGRESS (TPS35), 4 - 08 September 2019, vol.1, pp.54-58
- XV. **Generation of Programmable Diffractive Lenses with Multiple or Multi-Optical Axes, Multi-Focus, Dynamic Distance Control of Focal Lengths and Energy Intensities at Foci**
Çelik G., KAYA G., KURT M., KAYA N.
TURKISH PHYSICAL SOCIETY 35th INTERNATIONAL PHYSICS CONGRESS (TPS35), 4 - 08 September 2019, vol.1,

pp.27-30

- XVI. **Laser induced molecular alignment of CO₂ measured with ATI yields**
KURT M., KAYA G., KURT A., KAYA N.
TFD35: Turkish Physical Society 35. International Physics Congress, Bodrum, Turkey, 4 - 08 September 2019
- XVII. **Pressure optimization of High harmonic generation in an argon gas jet**
Sayrac M., Kolomenski A., Strohaber J., Boran Y., Kaya G., KAYA N., Schuessler H.
Cook's Branch Conservancy SIBOR – Workshop 2018, Montgomery, Texas, United States Of America, 09 November 2018, pp.1
- XVIII. **STUDY OF THREE-DIMENSIONAL MOMENTUM IMAGING DURING H₂ PHOTO-FRAGMENTATION**
KAYA N., KAYA G., ALEXANDRE A. K., KURT M., SCHUESSLER H.
TURKISH PHYSICAL SOCIETY 33RD INTERNATIONAL PHYSICS CONGRESS, Bodrum, Turkey, 6 - 10 September 2017
- XIX. **Analysis of the components of the crude oil samples with no sample pretreatment**
KAYA G., KAYA N.
TFD33: Turkish Physical Society 33rd International Physics Congress, Bodrum, Turkey, 6 - 09 September 2017
- XX. **Pressure dependence on nonadiabatic molecular alignment**
KAYA G., KAYA N.
Turkish Physical Society 33rd International Physics Congress, Bodrum, Turkey, 6 - 10 September 2017
- XXI. **Laser induced field-free molecular alignment in dissipative media**
KAYA G., KAYA N.
TFD33: Turkish Physical Society 33rd International Physics Congress, Bodrum, Turkey, 6 - 09 September 2017
- XXII. **Photo-fragmentation of H₂ with femtosecond laser pulses by employing a time-sliced 3D imaging technique**
KAYA N., KAYA G., JAMES S., ALEXANDRE K., KURT M., HANS S.
Turcmos 2017, Bodrum, Turkey, 26 June - 29 July 2017
- XXIII. **Nonadiabatic molecular alignment of linear molecules using circularly polarized femtosecond laser pulses**
KAYA N., KAYA G.
TURCMOS 2017: The 3rd International Turkish Congress on Molecular Spectroscopy, Bodrum, Turkey, 26 - 29 August 2017
- XXIV. **Manifestations of induced molecular alignment in the interaction of ultrafast laser pulses with gases**
Kolomenskii A. A., KAYA N., Kaya G., Sayrac M., Boran Y., Strohaber J., Schuessler H. A.
25th Annual International Laser Physics Workshop (LPHYS), Yerevan, Armenia, 11 - 15 July 2016, vol.826
- XXV. **Control of Femtosecond Filamentation by Revivals of Nonadiabatic Molecular Alignment**
KAYA N., Kaya G., Boran Y., Kolomenskii A. A., Amani M., Schuessler H. A.
Conference on Lasers and Electro-Optics Europe / European Quantum Electronics Conference (CLEO/Europe-EQEC), Munich, Germany, 25 - 29 June 2017
- XXVI. **Spatio-Temporal Control of Femtosecond Laser Filamentation and White-Light Generation**
KAYA N., Kaya G., STROHABER J., Kolomenskii A., SCHUESSLER H.
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- XXXIII. **Mid Infrared Dual Frequency Comb Spectroscopy for Time Resolved Methane Detection**
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- XXXIX. **Improving high harmonic generation conversion efficiency**
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- XL. **HHG enhancement in a mixture of a noble gas Ne with H₂ molecules**
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- XLV. Molecular rotational constants measured with photoelectron ionization yield**
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- LI. Enhancement or suppression of white light generation at the interaction of crossing femtosecond laser beams**
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- LII. Pressure optimization of HHG for bio-chemical applications**
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- LIV. Time sliced 3D imaging of photodissociation of H₂ at 800nm**
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- LV. White light generation by intense femtosecond pulses with different transverse modes A detailed study on Bessel beam propagation**
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- LVII. **Revival structures of N₂ Molecules in Field-Free Alignment by Above Threshold Ionization**
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- LIX. **White light generation using spatially structured beams of femtosecond radiation**
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- LX. **Chemical effect on K shell cross sections of Cu compounds at 59.5 keV**
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- LXI. **Determination of probabilities of radiative vacancy transfer from K to L shell using K shell intensity ratios for Co and Cu complexes**
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- LXII. **Effective atomic numbers and electron densities of CoCuAg alloy at 7 different energies from 6.403 to 27.472 keV**
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- LXIII. **Determination of K shell fluorescence yields of hf compounds at 123.6 keV**
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- LXV. **K-beta/K-alpha X-ray transition-probability ratios for 8 elements in the range 69 ≤ Z ≤ 76**
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Supported Projects

- I. KAYA N., OGUZ E., EU Supported Other Project, Yenilenebilir Gençlik Enerjisi (REYOU), 2017 - Continues
- II. KAYA N., Other International Funding Programs, Absorption spectroscopy with frequency comb lasers for gas analysis, 2016 - Continues
- III. KAYA N., Other International Funding Programs, Optical Studies of Ultra Cold Molecular Ions Using Femtosecond

and XUV Laser Radiation, 2014 - Continues

- IV. Kaya N., KAYA G., KURT A., TUBITAK Project, Metan Ölçümleri İçin Yeni Ultra-Hassas Optik Sensör Geliştirilmesi, 2022 - 2024
- V. KAYA G., KAYA N., KURT M., KURT A., Project Supported by Higher Education Institutions, Faz temelli uzamsal ışık modülatörü kullanarak holografik Airy ışınlarının üretilmesi, 2021 - 2023
- VI. Koyuncu S., Cengiz U., Kaya N., TUBITAK Project, Production of UV protected anti-fog glass using conjugated polymers, 2021 - 2023
- VII. KAYA N., Sönmez F., Project Supported by Higher Education Institutions, Uzak Mesafe Kablosuz Enerji Aktarımı: Farklı Lazer TEM Modlarında Elektromanyetik Enerji İletimi, 2020 - 2023
- VIII. Kaya G., Kaya N., TUBITAK Project, Eş Eksenli Ya Da Çok Eksenli, Çok Odaklı Programlanabilir Holografik Difraktif Lenslerin Üretilmesi, 2020 - 2023
- IX. Kaya N., Gökçen S., Project Supported by Higher Education Institutions, Monokristal ve Polikristal Fotovoltaik Güneş Panellerinin Dalga Boyuna Bağlı Performans Analizleri, 2020 - 2021
- X. KAYA N., Keskin A., Project Supported by Higher Education Institutions, Atmosferik düzeyde metan ölçümleri için ultrahassas optik sensör tasarımı, 2019 - 2021
- XI. KAYA N., Other International Funding Programs, Remote Measurements of Hydrocarbon and Greenhouse Gases in Fluids Carrying Them, 2013 - 2017
- XII. KAYA N., Other International Funding Programs, Gas tracers for interwell exploring petroleum reservoir structure, 2012 - 2016
- XIII. KAYA N., Other International Funding Programs, Development of a Phase-coherent Laser System for Attosecond Science and Precision Spectroscopy, 2007 - 2013
- XIV. KAYA N., Other International Funding Programs, Quantum Optics with Single Optical Cycles, 2006 - 2012
- XV. KAYA N., Other International Funding Programs, Atomic and Molecular Ions in Ultra-intense and ultrashort laser fields, 2007 - 2011

Activities in Scientific Journals

- I. Journal of Advanced Research in Natural and Applied Sciences, Editor, 2020 - Continues

Memberships / Tasks in Scientific Organizations

- I. Hidrojen Teknolojileri , Member, 2021 - Continues, Turkey
- II. APS, Member, 2014 - 2015
- III. OSA, Member, 2011 - 2014

Scientific Refereeing

- I. Journal of Quantitative Spectroscopy & Radiative Transfer, SCI Journal, January 2017
- II. AIP Advances, SCI Journal, January 2017
- III. Canadian Journal of Physics, SCI Journal, January 2017
- IV. Radiation Physics and Chemistry, SCI Journal, January 2016
- V. Optical and Quantum Electronics , SCI Journal, January 2016

Scientific Research / Working Group Memberships

- I. SIBOR, Texas A&M University, Amerika Birleşik Devletleri, <http://sibor.physics.tamu.edu>, 2010 - 2017

Metrics

Publication: 99
Citation (WoS): 381
Citation (Scopus): 381
H-Index (WoS): 14
H-Index (Scopus): 14

Congress and Symposium Activities

- I. 6th International Hydrogen Technologies Congress, Session Moderator, Çanakkale, Turkey, 2022
- II. II. INTERNATIONAL CONFERENCE ON AWARENESS, Moderator, Çanakkale, Turkey, 2018

Scholarships

- I. Researcher at TAMUQ, University, 2014 - 2014
- II. Doktors Bursu, Ministry of Education, 2008 - 2014

Coaching Duties

Refereeing Duties

Non Academic Experience

- I. FİNAL DERGİSİ DERSHANELERİ / TRABZON MERKEZ ŞUBESİ