

Asst. Prof. MUHAMMED SAYRAÇ

Personal Information

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Education Information

Doctorate, Texas A&M University - College Station, United States Of America 2013 - 2017

Postgraduate, Texas A&M University, United States Of America 2011 - 2013

Undergraduate, Turkey 2005 - 2009

Research Areas

Natural Sciences

Academic Titles / Tasks

Assistant Professor, Sivas Cumhuriyet University, Mühendislik Fakültesi, Nanoteknoloji Mühendisliği, 2020 - Continues

Research Assistant, Cankiri Karatekin University, Faculty Of Science, Department Of Physics, 2017 - 2020

Courses

Nanomalzemelerin Karakterizasyonu Laboratuvarı-II, Undergraduate, 2021 - 2022

Kariyer Planlama, Undergraduate, 2021 - 2022

Mühendisler için Termodinamik - II(İngilizce), Undergraduate, 2021 - 2022

Mühendisler İçin Bilgisayar Uyg. - II, Undergraduate, 2021 - 2022

Modern Fizik (İngilizce), Undergraduate, 2021 - 2022

Mühendisler İçin Bilgisayar Uyg. - I (İngilizce), Undergraduate, 2020 - 2021

Isı Aktarımı, Undergraduate, 2020 - 2021

Mühendisler için Olasılık ve İstatistik(İng), Undergraduate, 2020 - 2021

Mühendisler için Termodinamik - I (İngilizce), Undergraduate, 2020 - 2021

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Interband transitions and exciton binding energy in a Razavy quantum well: effects of external fields and Razavy potential parameters**
SAYRAÇ M., Peter A. J., Urgan F.
EUROPEAN PHYSICAL JOURNAL PLUS, vol.137, no.7, 2022 (Journal Indexed in SCI)
- II. **Nonlinear optical properties in Al_xGa_{1-x}As/GaAs double-graded quantum wells: The effect of the structure parameter, static electric, and magnetic field**
AYDINOĞLU H. S., SAYRAÇ M., Mora-Ramos M., UNGAN F.
Solid State Communications, vol.342, 2022 (Journal Indexed in SCI)
- III. **Effects of applied external fields on the nonlinear optical rectification, second, and third-harmonic**

generation in an asymmetrical semi exponential quantum well

SAYRAÇ M.

OPTICAL AND QUANTUM ELECTRONICS, vol.54, no.1, 2022 (Journal Indexed in SCI)

- IV. **Intensity-dependent nonlinear optical properties in an asymmetric Gaussian potential quantum well-modulated by external fields**
SAYRAÇ M., Turkoglu A., Mora-Ramos M. E. , Ugan F.
OPTICAL AND QUANTUM ELECTRONICS, vol.53, no.9, 2021 (Journal Indexed in SCI)
- V. **Generation of Coherent Extreme Ultraviolet Radiation in an Air Gas Cell with a High Power Femtosecond Laser System**
SAYRAÇ M.
OPTICS AND SPECTROSCOPY, vol.129, pp.825-829, 2021 (Journal Indexed in SCI)
- VI. **Influence of hydrostatic pressure, temperature, and terahertz laser field on the electron-related optical responses in an asymmetric double quantum well**
SAYRAÇ M., Turkoglu A., Ugan F.
EUROPEAN PHYSICAL JOURNAL B, vol.94, no.6, 2021 (Journal Indexed in SCI)
- VII. **Generation of even and odd harmonics in the XUV region with controlling the relative delay and polarization of two-color fields**
SAYRAÇ M., Kolomenskii A. A. , Dong J., Schuessler H. A.
Optik, vol.226, 2021 (Journal Indexed in SCI)
- VIII. **Generation of enhanced even harmonics of fundamental radiation in temporally separated two-color laser fields**
Sayrac M., Kolomenskii A. A. , Dong J., Schuessler H. A.
JOURNAL OF ELECTRON SPECTROSCOPY AND RELATED PHENOMENA, vol.233, pp.22-27, 2019 (Journal Indexed in SCI)
- IX. **Pressure dependence of high order harmonic generation in nitrogen molecular gas and atmospheric air**
Sayrac M., Kolomenskii A. A. , Schuessler H. A.
OPTIK, vol.179, pp.994-1000, 2019 (Journal Indexed in SCI)
- X. **Pressure optimization and phase matching of high harmonics generation in CO₂ and C₂H₂ molecular gases**
Sayrac M., Kolomenskii A. A. , Schuessler H. A.
JOURNAL OF ELECTRON SPECTROSCOPY AND RELATED PHENOMENA, vol.229, pp.1-6, 2018 (Journal Indexed in SCI)
- XI. **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 (Journal Indexed in SCI)
- XII. **Nonlinear mixing of optical vortices with fractional topological charge in Raman sideband generation**
Strohaber J., Boran Y., Sayrac M., Johnson L., Zhu F., Kolomenskii A. A. , Schuessler H. A.
JOURNAL OF OPTICS, vol.19, no.1, 2017 (Journal Indexed in SCI)
- XIII. **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 (Journal Indexed in SCI)
- XIV. **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 (Journal Indexed in SCI)
- XV. **High harmonic generation in Ne and H-2 gas mixtures**
Sayrac M., Kolomenskii A. A. , Strohaber J., Schuessler H. A.
JOURNAL OF THE OPTICAL SOCIETY OF AMERICA B-OPTICAL PHYSICS, vol.32, no.12, pp.2400-2405, 2015 (Journal Indexed in SCI)
- XVI. **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 (Journal Indexed in SCI)

Articles Published in Other Journals

- I. **High Harmonic Generation in Ar and N₂ Gas Mixture Using Ultrashort High Power Laser System**
SAYRAÇ M.
Journal of the Institute of Science and Technology, pp.1659-1665, 2020 (Other Refereed National Journals)
- II. **Characterization of GaAs/GaAlAs Heterostructures Grown on GaAsSubstrate using High Resolution X-ray Diffraction Method**
Sayrac H., SAYRAÇ M., Elagöz S.
Afyon Kocatepe Üniversitesi Fen ve Mühendislik Bilimleri Dergisi, 2020 (Refereed Journals of Other Institutions)
- III. **BEHAVIOUR OF LASER BEAM IN NONLINEAR MEDIA**
SAYRAÇ M., SAYRAÇ H., ARI M., TAPLAMACIOĞLU M. C.
International Journal on "Technical and Physical Problems of Engineering" (IJTPE), vol.11, pp.77-80, 2019
(Refereed Journals of Other Institutions)
- IV. **GENERAL OVERVIEW OF WIRELESS COMMUNICATION TECHNOLOGY**
SAYRAÇ M., ARI M., TAPLAMACIOĞLU M. C.
International Journal on "Technical and Physical Problems of Engineering" (IJTPE), vol.11, pp.25-30, 2019
(Refereed Journals of Other Institutions)

Refereed Congress / Symposium Publications in Proceedings

- I. **Numerical Simulation of Diffraction Patterns with Different Illumination Laser Wavelength**
SAYRAÇ M.
International Conference on Engineering Technologies (ICENTE'21), Konya, Turkey, 18 - 20 November 2021
- II. **Computation of Atomic Dipole Spectra for Different Atoms by Considering Short and Long Electron Trajectories under the Intense Laser Pulse**
SAYRAÇ M.
9TH INTERNATIONAL ADVANCED TECHNOLOGIES SYMPOSIUM (IATS'21), Turkey, 27 November 2021

Supported Projects

Özçelik S., Sayrac M., Özen Y., TUBITAK Project, Yakın Kızıl Ötesi Spektrumu Soğurucu Optik Filtre Geliştirilmesi, 2021 - 2023

Edit Congress and Symposium Activities

Yoğun Madde Fiziği , Invited Speaker, Ankara, Turkey, 2020

Citations

Total Citations (WOS):48

h-index (WOS):5

Scholarships

