Prof. dr. Dejan Milošević
Prof. dr. Aner Čerkić
Prof. dr. Azra Gazibegović-Busuladžić

VIJEĆU UNIVERZITETA U SARAJEVU - PRIRODNO-MATEMATIČKI FAKULTET

Predmet: Izbor nastavnika u zvanju docenta za oblast "Teorijska fizika" na Odsjeku za fiziku

Odlukom Vijeća Univerziteta u Sarajevu – Prirodno-matematički fakultet (br. 01/06-994/2-2022), donešenoj na elektronskoj 38. sjednici koja je održana 05.05.2022. godine, imenovana je komisija za pripremanje prijedloga za izbor nastavnika u zvanju docenta za oblast: "Teorijska fizika", jedan izvršilac sa punim radnim vremenom, u sastavu:

Dr. Dejan Milošević, akademik, redovni profesor Univerziteta u Sarajevu – Prirodno-matematičkog fakulteta, uža naučna oblast: „Teorijska fizika", predsjednik;

Dr. Aner Čerkić, vanredni profesor Univerziteta u Sarajevu – Prirodno-matematičkog fakulteta, uža naučna oblast: „Teorijska fizika", član;

Dr. Azra Gazibegović-Busuladžić, vanredna profesorica Univerziteta u Sarajevu – Prirodno-matematičkog fakulteta, uža naučna oblast: „Teorijska fizika", član.

Na konkurs, objavljen 04.04.2022. godine u dnevnom listu "Dnevni avaz", na web - stranici Fakulteta i na web - stranici Univerziteta u Sarajevu, prijavio se dr. Dino Habibović, viši asistent Univerziteta u Sarajevu – Prirodno-matematičkog fakulteta. Nakon pregleda dobijene dokumentacije podnosimo slijedeći

I Z V J E Š T A J

BIOGRAFSKI PODACI

Dino Habibović je rođen 01.12.1990. godine u Sarajevu. 2005. godine završio je osnovnu školu „Grbavica 1" a 2009. godine Treću gimnaziju u Sarajevu. Bio je učesnik brojnih takmičenja iz fizike na kantonalnom, federalnom i državnom nivou. Dobitnik je priznanja Učenik generacije.

Prvi ciklus studija u trajanju od osam semestara/četiri godine na Prirodno-matematičkom fakultetu Univerziteta u Sarajevu, Odsjek za fiziku, opšti smjer, podusmjerenje Teorijska fizika, završio 08.07.2013. godine sa prosjekom ocjena 9,98. Dobitnik je priznanja Zlatna značka Univerziteta u Sarajevu. Tema diplomskog rada: "Generacija viših harmonika na atomima".

2016. godine završio je drugi ciklus jednogodišnjeg studija iz oblasti Teorijska atomska, molekularna i optička fizika na Odsjeku za fiziku Prirodno-matematičkog fakulteta Univerziteta u Sarajevu, sa prosječnom ocjenom 10,0. Tema magistarskog rada: "Makroskopski efekti generacije viših harmonika na atomima".

2021. godine odbranio je doktorsku disertaciju „Procesi višeg reda na molekulama indukovani jakim dvokomponentnim laserskim poljima" na Prirodno-matematičkom fakultetu Univerziteta u Sarajevu. Prosjek ocjena na doktorskom studiju je 10,0.

2014. godine izabran je za asistenta, a 2017. godine za višeg asistenta za oblast „Teorijska fizika" na Odsjeku za fiziku Prirodno-matematičkog fakulteta Univerziteta u Sarajevu.

Dino Habibović aktivno poznaje engleski jezik (nivo C2).

Dino Habibović je član naučno-istraživačke grupe SAMOPHYS koja se bavi teorijskom fizikom iz oblasti laser-atom/molekularne interakcije u okviru Katedre za atomsku, molekularnu i optičku fiziku Prirodno-matematičkog fakulteta Univerziteta u Sarajevu.

Kretanje u službi

2017.– viši asistent za oblast Teorijska fizika na Odsjeku za fiziku Prirodno-matematičkog fakulteta Univerziteta u Sarajevu
Glavni poslovi i odgovornosti: istraživački rad u oblasti Teorijske fizike te izvođenje auditornih i laboratorijskih vježbi.

2014.–2017. asistent za oblast Teorijska fizika na Odsjeku za fiziku Prirodno-matematičkog fakulteta Univerziteta u Sarajevu
Glavni poslovi i odgovornosti: istraživački rad u oblasti Teorijske fizike te izvođenje auditornih i laboratorijskih vježbi.

Učešća na skupovima i konferencijama, članstva u društvima

AttoChem young scientist symposium, online event, September 14-17, 2021. (usmeno izlaganje)

VIII International School and Conference on Photonics, Belgrade, August 23-27, 2021. (poster prezentacija)

III QUTIF (Quantum Dynamics in Tailored Intense Fields) young research meeting (online event), Oldenburg, November 30 – December 2, 2020. (poster prezentacija)

OSA High-brightness Sources and Light-driven Interactions Congress (online event), Washington, November 16-20, 2020. (poster prezentacija)

Drugi susret fizičara Bosne i Hercegovine, Sarajevo, Oktobar 19, 2020. (usmeno izlaganje)

Quantum Dynamics in Tailored Intense Fields (QUTIF) research school, Freiburg, October 7-10, 2019. (poster prezentacija)

VI International School and Conference on Photonics, Belgrade, August 28 – September 1, 2017. (poster prezentacija)

V International School and Conference on Photonics, Belgrade, August 24-28, 2015. (poster prezentacija)

1st conference on medical and biological engineering in Bosnia and Herzegovina, Sarajevo, March 13-15, 2015. (poster prezentacija)

Sarajevo School of High Energy Physics 2012, Sarajevo, May 9-13, 2012.

Član je Društva fizičara u Federaciji Bosne i Hercegovine. Aktivan je u organizaciji takmičenja iz fizike i škola fizike za učenike osnovnih i srednjih škola.

Projekti

Primjena kompleksnih laserskih polja i terahercnog zračenja u fizici jakih polja i atonauci. Finansijer: Kanton Sarajevo. Voditelj projekta: akademik prof. dr. Dejan Milošević. Godina: 2021

Novi metodi generacije mekih x zraka i rasijanih elektrona pomoću kompleksnih laserskih polja. Finansijer: Kanton Sarajevo. Voditelj projekta: akademik prof. dr. Dejan Milošević. Godina: 2019

Uticaj elektromagnetnog zračenja na molekularne anione. Finansijer: Vlada Federacije Bosne i Hercegovine. Voditelj projekta: akademik Prof. dr. Dejan Milošević. Godina: 2019

KLASIFIKACIJSKA LISTA NAUČNIH I STRUČNIH RADOVA

Kvalifikacijski radovi

D. Habibović, "Generacija viših harmonika na atomima",
diplomski rad, Prirodno-matematički fakultet Univerziteta u Sarajevu, Sarajevo (2013).

D. Habibović, "Makroskopski efekti generacije viših harmonika na atomima",
magistarski rad, Prirodno-matematički fakultet Univerziteta u Sarajevu (2016).

D. Habibović, "Procesi višeg reda na molekulama indukovani jakim dvokomponentnim laserskim poljima",
doktorska disertacija, Prirodno-matematički fakultet Univerziteta u Sarajevu (2021).

Radovi u Web of Science Core Collection

1. M. Busuladžić, A Čerkić, S. Odžak, A. Gazibegović-Busuladžić, E. Hasović, D. Habibović, and D. B. Milošević, "Atomic and molecular processes generated by linearly polarized few-cycle laser pulses", Phys. Scr. **T162**, 014008 (2014).

Abstract: S-matrix theory is used to analyze different atomic and molecular processes in a linearly polarized few-cycle laser field. The energy spectra of high-order above-threshold ionization (HATI) are presented. Electron-atom potential scattering assisted by a few-cycle laser pulse is also analyzed. It is shown that the plateau structures in the energy spectra of the electron-atom potential scattering are dependent on the carrier-envelope phase (CEP) of the laser pulse, so that the cutoff positions of the plateaus can be controlled by changing the CEP. Regarding our analysis of the molecular HATI process, the angle-resolved spectra, obtained by different theoretical approaches, are also presented.

2. D. Habibović, S. Odžak, M. Busuladžić, E. Hasović, A. Gazibegović-Busuladžić, A. Čerkić, and D. B. Milošević, "Interference structures in nonlinear processes in strong infrared laser fields", Opt. Quantum Electron. **48**, 193 (2016).

Abstract: Molecular strong-field approximation in the frame of the S-matrix theory is applied in order to investigate above-threshold ionization (ATI) and high-order harmonic generation (HHG) for diatomic molecules. By analyzing the HHG and ATI spectra for different orientations of molecular axis with respect to the direction of the laser polarization vector we have observed interference structures. The positions of the interference minima depend on the internuclear distance and on the relative contributions of the atomic orbitals in the linear combination of the atomic orbitals of the highest occupied molecular orbitals. The HHG and ATI spectra have been obtained for infrared laser wavelengths and linearly polarized laser field. The calculated results may also provide additional information about the molecular structure.

3. J. Dakić, D. Habibović, A. Čerkić, M. Busuladžić, and D. B. Milošević, "Electron-molecule scattering in a strong laser field: Two-center interference effects", Phys. Rev. A **96**, 043406 (2017).

Abstract: Laser-assisted scattering of electrons on diatomic molecules is considered using the S-matrix theory within the second Born approximation. The first term of the expansion in powers of the scattering potential corresponds to the direct or single laser-assisted scattering of electrons on molecular targets, while the second term of this expansion corresponds to the laser-assisted rescattering or double scattering. The rescattered electrons may have considerably higher energies in the final state than those that scattered only once. For multicenter polyatomic molecules scattering and rescattering may happen at any center and in any order. All these cases contribute to the scattering amplitude and the interference of different contributions leads to an increase or a decrease of the differential cross section in particular electron energy regions. For diatomic molecules there are two such contributions for single scattering and four contributions for double scattering. Analyzing the spectra of the scattered electrons, we find two interesting effects. For certain molecular orientations, the plateaus in the electron energy spectrum, characteristic of laser-assisted electron-atom scattering, are replaced by a sequence of gradually declining maxima, caused by the two-center interference effects. The second effect is the appearance of symmetric U-shaped structures in the angle-resolved energy spectra, which are described very well by the analytical formulas we provide.

4. A. Korajac, D. Habibović, A. Čerkić, M. Busuladžić, and D. B. Milošević, "Electron-atom potential scattering assisted by a bichromatic elliptically polarized laser field", Eur. J. Phys. D **71**, 251 (2017).

Abstract: Electron-atom potential scattering assisted by a bichromatic (two-component) elliptically polarized laser field is analyzed in the frame of the S-matrix theory. The second Born approximation is applied in the expansion of the S-matrix element. The first term in the expansion corresponds to the single scattering, while the second term in the expansion corresponds to the double scattering of electrons on atomic targets. The double scattering is possible in the presence of a laser field. The electron that has scattered on an atomic target may be driven back by the laser field and scatter again on the same atom. The double scattered electrons may have considerably higher energies than those that scattered only once. We have investigated the dependence of the

energy spectrum on various laser-field and incident electron parameters. The calculated electron energy spectra show the plateau-like structures with abrupt cutoffs. These cutoffs are explained by a classical analysis.

5. D. Habibović, A. Čerkić, M. Busuladžić, A. Gazibegović-Busuladžić, S. Odžak, E. Hasović, and D. B. Milošević, "Molecules in a bicircular strong laser field", Opt. Quantum Electron. **50**, 214 (2018).

Abstract: Strong-field ionization of nonlinear planar triatomic molecules by a bicircular laser field is analyzed within the improved molecular strong-field approximation. Our calculations include additional interaction between the liberated electrons and atomic or ionic centers of the parent molecular ion. The used bicircular field consists of two counterrotating circularly polarized fields having angular frequencies rω and sω, with integer r and s. In the case when the laser-field-polarization plane is parallel to the plane of the considered molecule (example of ozone molecule is analyzed), the corresponding photoelectron spectra are not rotationally symmetric. On the other hand, when these planes are mutually perpendicular, for the (rω,sω)=(ω,3ω) bicircular field, the electron spectra satisfy the corresponding rotational symmetries. Analyzing the obtained spectra and the corresponding symmetries, one can extract information about molecular orientation and structure. This technique may also be useful for more complex polyatomic molecules.

6. A. Gazibegović-Busuladžić, D. Habibović, M. Busuladžić, and D. B. Milošević, "Molecular strong-field approximation for photodetachment of electrons from homonuclear diatomic molecular anions", J. Opt. Soc. Am. **37**, 813 (2020).

Abstract: Molecular strong-field approximation is applied to above-threshold detachment of homonuclear diatomic molecular negative ions. Differences between the photodetachment amplitudes for neutral diatomic molecules and diatomic anions, for both direct and rescattered electrons, are examined. Numerical results for the photoelectron spectra of C_2^- molecular anions for different intensities and wavelengths of a linearly polarized laser field and different molecular anion orientations are shown and discussed. Two-center destructive interference minima (suppression regions) in the rescattering part of the photoelectron spectra are observed. For molecules with molecular orientation defined by the angle θ_L with respect to the laser-field polarization axis, these minima manifest as two parallel straight lines in the distribution of the photoelectron yield presented in the photoelectron momentum plane. These lines make the angle $90^\circ-\theta_L$, with the momentum component parallel to the laser-field polarization axis. Focal-averaged photoelectron spectra are also presented and analyzed.

7. D. Habibović, A. Gazibegović-Busuladžić, M. Busuladžić, A. Čerkić, and D. B. Milošević, "Strong-field ionization of homonuclear diatomic molecules using orthogonally polarized two-color laser fields", Phys. Rev. A **102**, 023111 (2020).

Abstract: Using the improved molecular strong-field approximation we investigate high-order above-threshold ionization (HATI) of homonuclear diatomic molecules by an orthogonally polarized two-color (OTC) laser field. The OTC field components are linearly polarized, having the relative phase ϕ and frequencies rω and sω (r and s are integers and ω is the fundamental frequency). The molecule is aligned in the laser-field polarization plane. We have found that for even values of r + s the HATI spectra obey the C_2 rotational symmetry regardless of the relative phase, component intensities, and molecular orientation, while the spectra calculated for odd values of r + s and for certain molecular orientations exhibit the reflection symmetry. We have also explored the symmetry transformations of the HATI spectra for a shift of the relative phase by 180° and for various values of r and s. These symmetries are illustrated by numerical examples of the HATI spectra of the N_2 molecule. For particular values of the laser-field parameters, internuclear distance, and the electron emission angle we observed minima in the ionization yield as a function of the molecular orientation angle and the photoelectron energy. These minima are well fitted with the curve obtained using a condition for the destructive interference minima which we derived for an arbitrary laser field and applied to the OTC field. The relative phase between the OTC field components can be used to control the length and shape of the HATI plateau, as well as the appearance of these destructive interference minima.

8. D. Habibović and D. B. Milošević, "Ellipticity of high-order harmonics generated by aligned homonuclear diatomic molecules exposed to an orthogonal two-color laser field", Photonics **7**, 110 (2020).

Abstract: We investigate emission rate and ellipticity of high-order harmonics generated exposing a homonuclear diatomic molecule, aligned in the laser-field polarization plane, to a strong orthogonally polarized two-color (OTC) laser field. The linearly polarized OTC-field components have frequencies rω and sω, where r and s are integers. Using the molecular strong-field approximation with dressed initial state and undressed final state, we calculate the harmonic emission rate and harmonic ellipticity for frequency ratios 1:2 and 1:3. The obtained quantities depend strongly on the relative phase between the laser-field components. We show that with the OTC field it is possible to generate elliptically polarized high-energy harmonics with high emission rate. To estimate the relative phase for which the emission rate is maximal we use the simple man's model. In the harmonic spectra as a function of the molecular orientation there are two types of minima, one connected with the symmetry of the molecular orbital and the other one due to destructive interference between different contributions to the recombination matrix element, where we take into account that the electron can be ionized and recombine at the same or different atomic centers. We derive a condition for the interference minima. These minima are blurred in the OTC field except in the cases where the highest occupied molecular orbital is modeled using only s or only p orbitals in the linear combination of the atomic orbitals. This allows us to use the interference minima to assess which atomic orbitals are dominant in a particular molecular orbital. Finally, we show that the harmonic ellipticity, presented in false colors in the molecular-orientation angle vs. harmonic-order plane, can be large in particular regions of this plane.

These regions are bounded by the curves determined by the condition that the harmonic ellipticity is approximately zero, which is determined by the minima of the T-matrix contributions parallel and perpendicular to the fundamental component of the OTC field.

9. D. Habibović, W. Becker, and D. B. Milošević, "High-order harmonic generation by aligned heteronuclear diatomic molecules in an orthogonally polarized two-color laser field", Eur. J. Phys. D **75**, 122 (2021).

Abstract: Using the molecular strong-field approximation, we investigate high-order harmonic generation by heteronuclear diatomic molecules exposed to an orthogonally polarized two-color laser field, which consists of two mutually orthogonal linearly polarized fields with frequencies rω and sω. Here, r and s are integers and ω is the fundamental frequency. The harmonic emission rate and the harmonic ellipticity can be controlled using the laser-field parameters, in particular the relative phase and the intensity ratio of the laser-field components. The value of the relative phase, for which the emission rate is optimal, and the position of the cutoff can be estimated using a classical model. Also, we analyze the harmonic emission rate and the harmonic ellipticity as functions of the molecular orientation, which can also be used as a control parameter. Two types of minima are present in the spectra, depending on r and s. For r + s even, interference minima are present in the spectra of the T-matrix component either parallel or perpendicular to the internuclear axis. Using quantum-orbit theory and the saddle-point method, we derive a condition for the interference minima, which relates the molecular orientation angle θ_L and the harmonic order n. The corresponding curves in the (θ_L,n) plane well reproduce the minima of the numerically calculated spectra. For r+s odd, minima are present in the spectra for a particular molecular orientation angle. These minima are explained using the explicit form of the T-matrix element. A heteronuclear as opposed to a homonuclear molecule affords a larger region in the parameter space where both the harmonic ellipticity and the harmonic intensity vary smoothly and both are large.

10. D. Habibović, A. Gazibegović-Busuladžić, M. Busuladžić, and D. B. Milošević, "Strong-field ionization of heteronuclear diatomic molecules using an orthogonally polarized two-color laser field", Phys. Rev. A **103**, 053101 (2021).

Abstract: We apply the improved molecular strong-field approximation to investigate high-order above-threshold ionization (HATI) of heteronuclear diatomic molecules by an orthogonally polarized two-color (OTC) laser field. The OTC field consists of two linearly polarized components with frequencies rω and sω, where r and s are integers, and ω is the fundamental frequency. The molecule is aligned in the OTC laser field polarization plane. We show that the photoelectron momentum distribution obeys one reflection symmetry which is valid for arbitrary values of the relative phase between the OTC field components in the case when r + s is odd. For molecules oriented along the polarization axis z_L of the rω component ($\theta_L = 0^\circ$) and r even and s odd, the HATI spectrum exhibits the reflection symmetry with respect to the z_L axis. When the molecular orientation is along the x_L axis, which is perpendicular to the polarization axis of the rω component ($\theta_L = 90^\circ$), the spectrum exhibits the reflection symmetry with respect to the x_L axis for r odd and s even. In addition, we analyze the asymmetry in the photoelectron spectra of heteronuclear molecules by comparing them with the photoelectron spectra obtained ionizing a homonuclear diatomic molecule. We also explore the influence of the shift of the relative phase by 180° on the HATI spectra. We explain some characteristics of the obtained HATI spectra using a generalization of the classical two-dimensional simple man's model which includes ionization probabilities calculated using the imaginary-time method. Finally, we analyze the interference minima for different heteronuclear diatomic molecules and for particular values of the emission angle, laser-field parameters, and internuclear distance. These minima are well fitted with the curve obtained using the derived condition for the two-center destructive interference minima.

11. D. Habibović, W. Becker, and D. B. Milošević, "High-order harmonic generation by planar polyatomic molecules exposed to an orthogonally polarized two-color laser field", J. Phys. B **54**, 134004 (2021).

Abstract: The molecular strong-field approximation is employed to study high-order harmonic generation by linear and planar polyatomic molecules exposed to an orthogonally polarized two-color laser field, which consists of two orthogonal linearly polarized components with commensurable frequencies. For such a driving field, we find that the harmonic emission rate and the shape of the spectrum strongly depend on the laser-field parameters including the relative phase and the ratio of the intensities of the two components. The values of the relative phase that correspond to the optimal harmonic emission rate, as well as the cutoff position, can be assessed using a classical model. The possible production of an isolated attosecond pulse is investigated. For suitable symmetry of the laser field an attosecond pulse train with only one attosecond pulse per cycle can be generated. Depending on the frequencies of the two field components, the molecular symmetry properties and the orientation of the molecule with respect to the field, the even harmonics can be absent from the spectrum, which can be used to determine the molecular orientation. The emitted harmonics are elliptically polarized and their ellipticity depends on the molecular orientation.

12. D. Habibović, W. Becker, and D. B. Milošević, "Symmetries and selection rules of the spectra of photoelectrons and high-order harmonics generated by field-driven atoms and molecules", Symmetry **13**, 1566 (2021).

Abstract: Using the strong-field approximation we systematically investigate the selection rules for high-order harmonic generation and the symmetry properties of the angle-resolved photoelectron spectra for various atomic and molecular targets exposed to one-component and two-component laser fields. These include bicircular fields and orthogonally polarized two-color fields. The selection rules are derived directly from the dynamical symmetries of the driving field. Alternatively, we demonstrate that they can be obtained using the conservation of the projection of the total angular momentum on the quantization axis. We discuss how the

harmonic spectra of atomic targets depend on the type of the ground state or, for molecular targets, on the pertinent molecular orbital. In addition, we briefly discuss some properties of the high-order harmonic spectra generated by a few-cycle laser field. The symmetry properties of the angle-resolved photoelectron momentum distribution are also determined by the dynamical symmetry of the driving field. We consider the first two terms in a Born series expansion of the T matrix, which describe the direct and the rescattered electrons. Dynamical symmetries involving time translation generate rotational symmetries obeyed by both terms. However, those that involve time reversal generate reflection symmetries that are only observed by the direct electrons. Finally, we explain how the symmetry properties, imposed by the dynamical symmetry of the driving field, are altered for molecular targets.

13. D. Habibović, W. Becker, and D. B. Milošević, "Attosecond pulse trains with elliptical polarization from an orthogonally polarized two-color field", J. Opt. Soc. Am. **38**, 3367 (2021).

Abstract: Generation of an elliptically polarized attosecond pulse train by an orthogonally polarized two-color (OTC) laser field is investigated theoretically and simulated numerically. The OTC field consists of two linearly polarized fields with orthogonal polarizations and frequencies that are integer multiples of the fundamental frequency ω. For the ω − 3ω OTC field, the emitted harmonics are elliptically polarized so that they may form an elliptically polarized attosecond pulse train provided that a group of harmonics is phase-locked. This is the case if only one quantum orbit generates the corresponding part of the harmonic spectrum. If so, then two attosecond pulses are emitted per optical cycle due to the dynamical symmetry of the ω − 3ω OTC field. Atomic targets with an s ground state only generate attosecond pulses with almost linear polarization. Using, however, targets with a p ground state, attosecond pulses with substantial ellipticity can be produced because ground states with opposite magnetic quantum numbers m=+1 and m=−1 produce harmonics with opposite helicities at different rates. In this case, the harmonic intensity and harmonic ellipticity are different for the ground states with the magnetic quantum number m=±1. These differences are the source of the attosecond pulse ellipticity and can be controlled using the relative phase as a control parameter. In addition, by choosing a particular group of harmonics, one can select the desired ellipticity of the attosecond pulse train.

Radovi koji nisu u Web of Science

D. Habibović, W. Becker, and D. B. Milošević, "Generation of elliptically polarized high-order harmonics exposing aligned diatomic molecules to orthogonally polarized two-color fields", In: Proceedings of the OSA High-brightness Sources and Light driven Interactions Congress [conference proceedings on the Internet]; 2020 Nov 16-20; Washington, DC, United States. Washington, D.C.: OSA; 2020. Available from: OSA digital library:
https://www.osapublishing.org/conference.cfm?meetingid=119&yr=2020

D. Habibović, A. Gazibegović-Busuladžić, M. Busuladžić, A. Čerkić, and D. B. Milošević, "Laser-induced processes with homonuclear diatomic molecules in orthogonally polarized two-color laser field", J. Phys. Conf. Ser. **1814**, 012001 (2021).

NASTAVNO – PEDAGOŠKI RAD

Prvi ciklus studija

Odsjek za fiziku Prirodno-matematičkog fakulteta Univerziteta u Sarajevu
- držao auditorne vježbe iz predmeta: Mehanika (2014.–2019.), Uvod u računare za fizičare II (2018.), Klasična mehanika I (2016.–), Klasična mehanika II (2015.–), Elektromagnetizam (2017.–2019.), Teorija elektromagnetnog polja (2014. –), Osnove laserske fizike (2014.–), Statistička fizika (2014.–), Specijalna teorija relativnosti (2014.), Viši kurs optike I (2016.– 2017.), Uvod u nuklearnu fiziku (2014.–2017.), Kompjutaciona fizika I (2014.–2020.), Kompjutaciona fizika II (2015.–2021.), Kvantna teorija polja I (2014.–), Kvantna teorija polja II (2014.–)
- držao laboratorijske vježbe iz predmeta: Fizikalni praktikum I (2015.–2016.), Fizikalni praktikum II (2021.–)

Odsjek za biologiju Prirodno-matematičkog fakulteta Univerziteta u Sarajevu
- držao laboratorijske vježbe iz predmeta Biofizika (2015.)

Farmaceutski fakultet Univerziteta u Sarajevu
- držao laboratorijske vježbe iz predmeta Fizika (2017.–2018.), (2022.)

Veterinarski fakultet Univerziteta u Sarajevu
- držao laboratorijske vježbe iz predmeta Biofizika u veterinarskoj medicini (2021.)

Drugi ciklus studija

Odsjek za fiziku Prirodno-matematičkog fakulteta Univerziteta u Sarajevu
- držao auditorne vježbe iz predmeta: Fizika okoliša (2017.), Kvantna mehanika III (2019.–), Kvantna teorija polja III (2020.–).

PRIJEDLOG SA OBRAZLOŽENJEM

Na osnovu Zakona o visokom obrazovanju Kantona Sarajevo ("Službene novine Kantona Sarajevo broj 33/17"), člana 96. stav d) i člana 194. Statuta Univerziteta u Sarajevu, prijavljeni kandidat, **dr. Dino Habibović** viši asistent Univerziteta u Sarajevu – Prirodno-matematičkog fakulteta, ispunjava sve zakonske uslove za **izbor** u zvanje **docenta** za oblast **"Teorijska fizika",** jer:

- posjeduje naučni stepen doktora fizičkih nauka,
- je objavio **petnaest (15)** naučnih radova iz oblasti za koju se bira u priznatim publikacijama koje se nalaze u relevantnim bazama podataka (od toga 13 u WoS CC),
- ima pokazane nastavničke sposobnosti kao asistent i viši asistent na Odsjeku za fiziku.

Pored toga kandidat je učesnik više federalnih i kantonalnih naučno-istraživačkih projekata, a rezultate svojih istraživanja izlagao je na višemeđunarodnih naučnih konferencija.

S obzirom na navedene činjenice, članovi Komisije smatraju da Dino Habibović ispunjava sve zakonom predviđene uslove za izbor u zvanje docenta. Sa zadovoljstvom predlažemo Vijeću Univerziteta u Sarajevu – Prirodno-matematičkog fakulteta da **izabere** dr. Dinu Habibovića, **u zvanje docenta za oblast "Teorijska fizika"** na Univerzitetu u Sarajevu – Prirodno-matematički fakultet.

U Sarajevu, 13.05.2022. godine

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Dr. Dejan Milošević, redovni profesor

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Dr. Aner Čerkić, vanredni profesor

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Dr. Azra Gazibegović-Busuladžić, vanredna profesorica