

Curriculum Vitae

GENERAL INFORMATION

Name **Nataša Vujičić**
Title Dr. sc.
Year and Institution of PhD obtained 2011 Faculty of Science, Physics Department, University of Zagreb
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Personal web page <http://projekt2.ifs.hr/vujicic/Natasa.htm>
Citizenship Croatian
Date and place of birth 10/02/1975, Zagreb

EDUCATION

Date 15/ 12/ 2011
Dissertation title N. Vujičić: 'Influence of the magneto-optical effects on rubidium atoms resonance lines'
Place Zagreb
Institution Faculty of Science, Physics Department, University of Zagreb
Title of qualification awarded Ph.D. in Physics

Date 02/05/2005.
Diploma title N. Vujičić: 'Creation of low-density plasma in air, helium and nitrogen with femtosecond laser amplifier'
Place Zagreb
Institution Faculty of Science, Physics Department, University of Zagreb
Title of qualification awarded Diploma (B. Sc.) in Physics

WORK EXPERIENCE

Date (from-until) 15/09/2015-present
Institution Institute of Physics
Position Research Associate

Date (from-until) 01/01/2012 – 14/09/2014
Institution Institute of Physics
Position Senior Research Assistant -Postdoc

Date (from-until) 01/01/2006 – 31/12/2011

Institution Institute of Physics
Position Research Assistant- PhD Student

Work field Natural Sciences; Atomic and Molecular Physics; Spectroscopy,
Optical properties of 2D Materials, nonlinear Optics, Time-resolved
Spectroscopy, Frequency Comb Spectroscopy

TRAINING

Year 2013
Place Ljubljana, Slovenia
Institution Jožef Stefan Institute, Complex Matter Department
Work field Time resolved optical spectroscopy in pump-probe configuration for
research of transient phenomena in different correlated 2D and 3D
electronic systems.

LANGUAGES

Mother Tongue Croatian

Language English
Speaking C1
Reading C2
Writing C1

Language German
Speaking A2
Reading B1
Writing A2

COMPUTER SKILLS

Advanced use and administration of Microsoft Windows operating systems.
Advanced in data analysis and modelling in OriginLab, SigmaPlot, Matlab, Mathematica, MathCad.
Good command of office packages and graphic design applications: Microsoft Office, LaTeX,
Designer, Photoshop.

ORGANIZATIONAL SKILLS AND COMPETENCES

Member of the Organizing Committee of International Conference: *Laser Pulse Shaping and Coherent Control of Molecules*, Brijuni, Croatia, 2007 (<http://brijuni2007.ifs.hr/>)
Member of the Organizing Committee of International Conference: *Laser Control and Molecular Switches*, Brijuni, Croatia, 2005 (<http://brijuni2005.ifs.hr/>)

MEMBERSHIP IN SCIENCE ORGANIZATIONS AND BODIES

2005 - present: member of Croatian Physical Society and European Physical Society

TEACHING

2015-present: Teacher at Faculty of Science, Physics Department, University of Zagreb, *Femtosecond Laser Spectroscopy* course, Postgraduate Study Program.

2006 - 2013: Teaching assistant at Faculty of Science, Physics Department, University of Zagreb *Electrodynamics* course (leader Doc. dr. sc. Davor Horvatić), Undergraduate Study Program.

2007 - 2008: Teaching assistant at Technical Polytechnic in Zagreb *Optical Sensors* course (leader Dr. sc. Goran Pichler), Graduate Study Program.

LIST OF PUBLICATIONS

15. V. Vega-Mayoral, D. Vella, T. Borzda, M. Prijatelj, I. Tempra, E. A. A. Pogna, S. Dal Conte, P. Topolovsek, N. Vujicic, G. Cerullo, D. Mihailovic, C. Gadermaier:
Exciton and charge carrier dynamics in few-layer WS₂
Nanoscale 8, 5428 (2016).
14. D. Vella, V. Vega - Mayoral, C. Gadermaier, N. Vujicic, T. Borzda, P. Topolovsek, M. Prijatelj, I. Tempra, E. A. A. Pogna, G. Cerullo:
Femtosecond spectroscopy on MoS₂ flakes from liquid exfoliation: surfactant independent exciton dynamics
J. Nanophoton. 10, 012508 (2016).
13. T. Borzda, C. Gadermaier, N. Vujičić, P. Topolovšek, M. Borovšak, T. Mertelj, D. Viola, C. Manzoni, E. A. A. Pogna, D. Brida, M. R. Antagnazza, F. Scotognella, G. Lanzani, G. Cerullo, D. Mihailović:
Charge photogeneration in few-layer MoS₂
Adv. Funct. Mater. 25, 3351 (2015).
12. A. Pogrebna, T. Mertelj, N. Vujičić, G. Cao, Z. A. Xu, D. Mihailović:
Coexistence of ferromagnetism and superconductivity in iron based pnictides: a time resolved magneto-optical study
Sci. Rep. 5, 7754, (2015).
11. T. Mertelj, N. Vujičić, T. Borzda, I. Vaskivskyi, A. Pogrebna, D. Mihailović:
Multichannel photodiode detector for ultrafast optical spectroscopy
Rev. Sci. Instrum. 85, 123111 (2014).
10. A. Pogrebna, N. Vujičić, T. Mertelj, T. Borzda, G. Cao, Z. A. Xu, J.-H. Chu, I. R. Fisher, D. Mihailović:
Spectrally-resolved femtosecond reflectivity relaxation dynamics in undoped spin-density wave 122-structure iron-based pnictides

Phys. Rev. B **89**, 165131 (2014).

9. N. Vujičić, G. Kregar, T. Ban, D. Aumiler, G. Pichler: *Frequency comb polarization spectroscopy of multilevel rubidium atoms*, Prihvaćen za objavljivanje u Eur. Phys. J. D: atomic, molecular and optical physics **68**, 9 (2014).

8. N. Vujičić, T. Ban, G. Kregar, D. Aumiler, G. Pichler: *Velocity-selective double resonance in Doppler-broadened rubidium vapor*, Phys. Rev. A **87**, 013438 (2013).

7. T. Ban, D. Aumiler, S. Vdović, N. Vujičić, H. Skenderović, G. Pichler: *Coherent population dynamics in rubidium atoms excited by resonant $0-\pi$ pulses*, Phys. Rev. A **80**, 023425 (2009).

6. D. Aumiler, T. Ban, N. Vujičić, S. Vdović, H. Skenderović, G. Pichler: *Characterization of the optical frequency comb using modified direct frequency comb spectroscopy*, Appl. Phys. B **97**, 553 (2009).

5. G. Školnik, N. Vujičić and T. Ban: *Optical pumping of Zeeman components in rubidium vapor*, Opt. Comm. **282**, 1326 (2009).

4. H. Skenderović, T. Ban, N. Vujičić, D. Aumiler, S. Vdović and G. Pichler: *Cone emission induced by femtosecond excitation in rubidium vapor*, Phys. Rev. A **77**, 063816 (2008).

3. T. Ban, D. Aumiler, H. Skenderović, S. Vdović, N. Vujičić, and G. Pichler: *Cancellation of the coherent accumulation in rubidium atoms excited by a train of femtosecond pulses*, Phys. Rev. A **76**, 043410 (2007).

2. N. Vujičić, S. Vdović, D. Aumiler, T. Ban, H. Skenderović, G. Pichler: *Femtosecond laser pulse train effect on Doppler profile of cesium resonance lines*, Eur. Phys. J. D **41** 447 (2007).

1. N. Vujičić, H. Skenderović, T. Ban, D. Aumiler, G. Pichler: *Low-density plasma channels generated by femtosecond pulses*, Appl. Phys. B **82**, 377 (2006).

Ongoing projects

2017-present

Optical Properties of Transition Metal Dichalcogenide Heterostructures, Institute of Physics, HrZZ Project, 01.03.2017. - 28.02.2021. - collaborator

2014- present

Centre of Excellence for Advanced Materials and Sensors-CEMS, Research Unit: Graphene and Related 2D Structures, Institute of Physics, EU structure funds, 10.11.2014. - 10.11.2019. -- collaborator

2015-2017

Bilateral project China-Croatia: Large-scale synthesis and characterization of novel 2D materials, Institute of Physics, MZO, 01.09.2015. - 01.09.2017. -collaborator

2016-2017

Bilateral project Slovenia-Croatia: Growth and characterization of functional 2D materials based on graphene and dichalcogenides, Institute of Physics, MZO, 01.04.2016. - 31.12.2017. -PI

Completed projects

2006 - 2013

Femtosecond laser physics of atoms and molecules, Institute of Physics, MZOS Project, finished-collaborator

2005 – 2006

Femtosecond laser spectroscopy and Ultracold Molecules, Institute of Physics, MZOS Project, finished-collaborator

2011 – 2013

Poof of Concept Grant Vital teeth bleaching device with real-time measurement results, Institute of Physics, BICRO, finished-collaborator

2013-2017

Coherent trajectories through symmetry breaking transitions, Jožef Stefan Institute Ljubljana, ERC Advanced Grant for 2012, finished, postdoc

2009 – 2010

Bilateral project France-Croatia COGITO: Creation of ultracold molecules with femtosecond lasers, Institute of Physics, MZOS, finished -collaborator

2009 – 2010

Bilateral project Serbia-Croatia: Quantum optics of laser-atom interactions, MZOS, finished-collaborator

2008 – 2009

Bilateral project Austria-Croatia: Femtoseconds laser plasma diagnostics, MZOS, finished - collaborator

2007 – 2009

Bilateral project China-Croatia: Nonadiabatic effects in molecular reaction dynamics studied by femtosecond laser spectroscopy, Institute of Physics, MZOS, finished - collaborator

2005 – 2006

Bilateral project France-Croatia COGITO: Femtosecond lasers effects on organic light devices- collaborator, Institute of Physics, MZOS, finished