Curriculum Vitae
Maja Mičetić

Ruđer Bošković Institute

PERSONAL INFORMATION

Name and surname	**Maja Mičetić**
Academic title	Dr. sc. in Physics
Date and institution of PhD obtained	July, 2008, University of Zagreb
Address	Rim 82, 10000 Zagreb, Croatia
Phone	++385 1 456 0988
Fax	
E-mail	maja.micetic@irb.hr
Personal web page	http://www.irb.hr/eng/People/Maja-Buljan
Citizenship	Croatian
Date and place of birth	13.10.1973. Sarajevo, Bosnia and Herzegovina

WORK EXPERIENCE
(CHRONOLOGICALLY*)

Date (from – until)	Dec 2015-now
Institution	Ruđer Bošković Institute, Croatia
Position	Head of the Thin film laboratory
Date (from – until)	Jan 2016-now
Institution	Ruđer Bošković Institute, Croatia
Position	Senior research associate
Work field	*Materials based on self-assembled core/shell quantum dots and nanowires in different glass matrices. Nanoporous materials and solar cells*
Date (from – until)	Jan 2011-2016
Institution	Ruđer Bošković Institute, Croatia
Position	Research associate
Work field	*Materials based on self-assembled quantum dots in amorphous matrices prepared by magnetron sputtering deposition and ion beam irradiation. Self-assembly of nanoparticles in various amorphous matrices achieved by self-assembled growth and ion-beam assisted self-assembly. Monte-Carlo simulations of self-assembly. Methodology for determination of ion-track properties. Theory for description of GISAXS (Grazing incidence small angle x ray scattering) from lattices of nanoparticles.*
Date (from – until)	Sep 2008-Jan 2011
Institution	Ruđer Bošković Institute, Croatia
Position	Senior assistant
Work field	*Self-assembly of quantum dots in continuous films. Preparation of regularly ordered void arrays in amorphous matrices. Interactions of ion beam with materials: self-assembly induced by ion-beam irradiation. Theory for description of GISAXS, Monte-Carlo simulations.*
Date (from – until)	2008-2009
Institution	Charles University in Prague, Czech Republic.
Position	Postdoc
Work field	*Synthesis and structural characterization of nano-based materials by x-ray based techniques (x-ray diffraction (XRD), grazing incidence small angle x-*

	ray scattering (GISAXS), x-ray reflectivity (XRR), reciprocal space mapping (RSM), grazing incidence diffraction (GID)), development of theory and experimental realization. Monte-Carlo simulations of quantum dot formation by ion-beam irradiation.
Date (from – until)	Oct 2001-Sep 2008
Institution	Ruđer Bošković Institute, Croatia
Position	Assistant
Work field	*Semiconductor quantum dots in amorphous silica matrix, preparation and structural characterization.*

EDUCATION
(CHRONOLOGICALLY)

Date	17.07. 2008
Place	Zagreb
Institution	*University of Zagreb, Croatia*
Title of qualification awarded	Dr. sc. in Physics
Date	17.10. 2000
Place	Zagreb
Institution	University of Zagreb, Croatia
Title of qualification awarded	B. sc. in Physics

TRAINING
(CHRONOLOGICALLY)

Year	*2012*
Place	*Dresden, Germany*
Institution	*Helmholtz-Zentrum Dresden-Rossendorf*
Subject and skills covered	*Growth conditions for achieving of anisotropic growth of quantum dot lattices. Structural characterization of ion-beam irradiated materials by reciprocal space mapping.*
Year	*2011*
Place	*Dresden, Germany*
Institution	*Helmholtz-Zentrum Dresden-Rossendorf*
Subject and skills covered	*Self-assembly of Ge QDs on ion-beam produced rippled surfaces and in amorphous alumina matrix, X-ray diffraction (XRD), x-ray reflectivity (XRR), magnetron sputtering deposition.*
Year	*2008-2009*
Place	*Prague, Czech Republic*
Institution	*Charles University in Prague*
Subject and skills covered	*Structural characterization of nano-based material. Theory for description of XRD from nanocrystals X-ray based techniques (x-ray diffraction (XRD), x-ray reflectivity (XRR), grazing incidence diffraction (GID), grazing incidence small angle x-ray scattering (GISAXS)), Monte-Carlo simulations.*
Year	*2003-2004*
Place	*Haifa, Israel*
Institution	*Technion, Israel Institute of Technology*
Subject and skills covered	*Production of diamond nanocrystals in amorphous SiO_2 matrix by ion-beam implantation.*

RESEARCH AND OTHER PROJECTS
(CHRONOLOGICALLY; LEADER AND ASSOCIATES; FUNDING SOURCE)

A. Standard projects:

1. 2018-2022 "*3D networks of complex Ge-based nanostructures in glasses: properties and applications*" my function-project leader. Funding source HRZZ
2. 2017-2021 EU funding: "Unlocked solar cells and modules through research and development activities"
3. 2016-2017. "*Self-assembled porous nano-networks: filter membranes for gasses and liquids"*, My function: Project leader. Funding source: Hamag BICRO. (368.339,04 kn)
4. 2014-2017."*Nano-networks of quantum dots in glasses: from self-assembly to energy conversion and hydrogen storage*", My function: Project leader. Funding source: HRZZ-Croatian Science Foundation.
5. 2014-now: Center of Excellence for Advanced Materials and Sensing Devices - CEMS. My function: collaborator in three units of CEMS:
   -New functional materials,
   -Science of Graphene and related 2D structures
   -Ion beam physics and technology
6. 2013-2015. "*Solar Cells on glass based on self-assembled nanoparticles in amorphous matrices"*. My function: Project leader. Donation of ADRIS group.
7. 2012-2013. "*Synergy of nanophases and nanocomposites*", My function: Project leader. Funding source: Ministry of Science Education and Sports of Republic Croatia (MZOŠ),
8. 2012-2013: "*Novel amorphous and nanostructural materials*" My function: associate Funding source: Ministry of Science Education and Sports of Republic Croatia (MZOŠ),
9. 2008-2009. Brain gain-PostDoc: *Structural properties of semiconductor clusters*; My function: Project leader, Funding source: NZZ: National Foundation for Science, Higher Education and Technological Development of the Republic of Croatia, Croatia
10. 2007-2012, *Basic properties of nanostructures and defects in semiconductors and dielectrics*; My function: associate (PI: Dr. sc. B. Pivac). Funding source: MZOŠ, Croatia
11. *2001-2007 "Study of defects in semiconductors and insulators";* principal investigator (PI): Dr. B. Pivac. Funding source: Ministry of Science Education and Sports of Republic Croatia (MZOŠ). My function: associate.

B. Projects for experiments at synchrotrons

1. December 2019 Production of non-oxidized 3D Ge nanowire networks in alumina matrix by Al doping PI: M. Buljan, Elettra Trieste, Italy
2. September 2018 *Formation of three dimensional Ge nanowire mesh in different amorphous matrices* PI: M. Buljan, Elettra Trieste, Italy
3. September 2017 *Determination of structural properties of ion-beam tracks on Ge+ITO surface by GISAXS*, PI: M. Buljan, Elettra Trieste, Italy
4. August 2016 *Ge/Si core/shell quantum dots in alumina: Influence of Ge-core and Si-shell size on ordering and optical properties*, PI: M. Buljan, Elettra Trieste, Italy
5. April 2016 *Fabrication of Ge nanowire networks in alumina glass matrix*, PI: M. Buljan, Elettra Trieste, Italy
6. December 2015. *Fabrication of Ge/Al core/shell quantum dot lattices in an alumina matrix*, PI: M. Buljan, Elettra Trieste, Italy
7. December 2014. Preparation of Ge/Si core/multishell quantum dot lattices in an alumina matrix, PI: M. Buljan, Elettra Trieste, Italy
8. March 2014, '*Structural properties of self-assembled core/shell Ge/Ni clusters for magneto-optical applications*' PI: M. Buljan, Elettra Trieste, Italy.
9. December 2013. *Growth of anisotropic Ge and Ge/Si quantum dot lattices in amorphous oxide matrices*, PI M. Buljan, Elettra Trieste, Italy
10. March 2013, *'Structural properties and growth mechanism of Si nano-objects in amorphous alumina mutlilayers'* PI: M. Buljan, Elettra Trieste, Italy
11. January/February 2013 *„'Growth of core-shell Ge/Si and Si/Ge quantum dot lattices in amorphous alumina matrix*", PI: M. Buljan, ESRF Grenoble, France;
12. October 2012: *Determination of ion track radii in amorphous matrices*, PI: M. Buljan, Elettra Trieste, Italy
13. January/February 2012: *Self-assembled Ge quantum dots on Si substrates: a regular ordering achieved by magnetron sputtering*; PI: M. Buljan, Elettra, Trieste Italy.
14. December 2011: *Self-Assembly of semiconductor quantum dots in amorphous alumina multilayers*; PI: M. Buljan, Elettra
15. Jun 2011: *Growth of Ge quantum dot lattices in alumina matrix*; PI: M. Buljan, Assoc: N. Radić, V. Holy; ESRF Grenoble, France
16. October/November 2010: *Growth of Ge quantum dot lattices in alumina matrix*; PI: M. Buljan, ESRF Grenoble, France
17. September/October 2010: *Influence of ion type on properties of quantum dot lattices formed by ion beam irradiation*; PI: M. Buljan, Elettra Trieste, Italy
18. May 2010: *Ordering of quantum dots in amorphous matrices by ion beam irradiation*; PI: M. Buljan, Assoc: M. Karlušić,U. Desnica, V. Valeš, X. Marti, V. Holy; Elettra Trieste, Italy
19. December 2009: *In-situ investigation of the ordering of Ge quantum dots during the growth of Ge+SiO2 multilayers*; PI: M Buljan, ESRF Grenoble, France
20. September 2009: *Spontaneous atomic ordering in SiGe nanocrystals in amorphous matrix induced by ion beam irradiation*; PI: M. Buljan, ESRF Grenoble, France

TEACHING
(CHRONOLOGICALLY; UNDERGRADUATE, GRADUATE , POSTGRADUATE STUDY PROGRAMMES

2007-2016; Statistics and Basic measurements; undergraduate/graduate
2007-2014; Introductory Laboratory Exercises in Physics 1; undergraduate/graduate
2007-2008; Introductory Laboratory Exercises in Physics 2; undergraduate/graduate
2007- 2008; Laboratory Exercises in Solid State Physics; undergraduate/graduate

MENTORSHIP OF DEFENDED DOCTORAL AND MASTER DISSERTATIONS AND TRAINING OF YOUNG RESEARCHERS AND SCIENTISTS
(CHRONOLOGICALLY)

-2018 Mentorship od doctoral thesis, Nikolina Nekić, University of Zagreb, Croatia. Thesis title: *Self-assembled Ge/Si core/shell quantum dots in alumina matrix for application in photo-electric conversion* (12.2018)

-2017 Menthorship of Diploma thesis, Mara Kresić, University of Zagreb, Croatia. Thesis title: *Modeliranje i vizualizacija funkcija: primjena na raspršenje x-zračenja pod malim upadnim kutom u mali izlazni kut-GISAXS* (Nov 2017).

-2016 (in progress) Menthorship od PhD thesis Lovro Basioli, Ruđer Bošković Institute.

-2016 Menthorship of Diploma thesis, Lovro Basioli, University of Zagreb, Croatia. Thesis title: *Investigation of solar cells based on self-assembled Ge quantum dots in glasses* (Sep 2016).

-2015 (in progress). Menthorship od PhD thesis Nikolina Nekić, Ruđer Bošković Institute.

-2013. Menthorship of Diploma thesis, Jerko Roško, University of Zagreb, Croatia. Thesis title: *Investigation of preparation of self-assembled Si/Ge and Ge/Si core shell nanoparticles* (July 2013).

- 2013. Co-menthor of Doctoral thesis. Dr. sc. Eliana Vieira, University of Minho, Braga, Portugal. Thesis: *Growth and characterization of $Si_{1-x}Ge_x$ nanocrystals-based floating-gate flash memory with high-k tunneling/control dielectrics*. (Jun 2013).

-2012. Seminar from Experimental Research in Solid State Physics, post-graduate; M. Jerčinović, Ruđer Bošković Institute, Croatia.

-2012. Co-menthor of Doctoral thesis. Dr. Marko Karlušić, Ruđer Bošković Institute, Laboratory of ion-beam interaction. Thesis: *Swift heavy ion tracks in $SrTiO_3$* (Zagreb, January 2012). We have worked together on allocation of thermal spike model on self-assembly of quantum dots by ion-beam irradiation, use of GISAXS and RSM for characterization of ion induced damage in $SrTiO_3$.

-2010. Co-menthor of Doctoral thesis. Dr. Sara Pinto, University of Minho, Braga, Portugal. Thesis: *Structural study of $Si_{1-x}Ge_x$ nanocrystals embedded in dielectric matrix.* (October 2010).

VISITS TO FOREIGN RESEARCH AND EDUCATION INSTITUTIONS
(CHRONOLOGICALLY)

2017;
Bratislava, Slovakia
Slovakian Academy of Science,
In-situ monitoring of self-assembled growth by GISAXS; GISAXS measurements

2015;
Amsterdam, Netherlands
Van der Waals-Zeeman Instituut,
Optical properties of Ge/Si core/shell nanoparticles

2014;
Cambridge, USA,
Institute of Technology-MIT, Laboratory for Nanophotonics and Electronics,
Quantum dot and nanowire based solar cells

2012;
Dresden, Germany
Helmholtz-Zentrum Dresden-Rossendorf-HZDR
Growth conditions for achieving of anisotropic growth of quantum dot lattices.
Structural characterization of ion-beam irradiated materials by reciprocal space mapping.

2011;
Dresden, Germany
Helmholtz-Zentrum Dresden-Rossendorf-HZDR
Self-assembly of Ge QDs on ion-beam produced rippled surfaces and in amorphous alumina matrix

2008-2009;
Prague, Czech Republic
Charles University in Prague
Structural analysis of nano-based materials, X-ray based techniques

2004;
Haifa, Israel
TECHNION, Israel Institute of Technology
Nano-based materials, ion-beam implantation, diamond nanocrystals

2003;
Haifa, Israel
TECHNION, Israel Institute of Technology
Nano-based materials, ion-beam implantation, diamond nanocrystals

AWARDS AND RECOGNITIONS
(CHRONOLOGICALLY)

A. Invited talks (20 invited lectures at international conferences or workshops):

1. September 2019. Preparation and basic properties of Ge quantum dot lattices in amorphous Al2O3, Si3N4 and SiC matrices, IPlasma Nano, Rovinj, Hrvatska
2. August 2019. Application of GISAXS in analysis of nanostructured materials, ESUO workshop, Photonica 2019, Beograd Srbija.
3. May 2019, Materials based on Ge QDs for application in solar energy conversion, Workshop on Solar Energy Materials, Zagreb, Croatia
4. Jan 2019, *Production of self-assembled nanostructures in amorphous systems by magnetron sputtering deposition;* Workshop on Plasma-Tailored Nanostructures and Applications (WOPTAN), Rogla, Slovenia
5. Jun 2017, *Ion Beam Modification of Thin Films and Surfaces: Quantum Dot Formation and Characterization by GISAXS ,* FOR3NANO: Formation of 3D Nanostructures by Ion Beams, Helsinki, Finland
6. Jun 2017, Thin films based on semiconductor nanostructures in glasses: design and application, Solid-State Science & Research, Department of Chemistry, Faculty of Science, Zagreb
7. May 2017 Germanium nanowires in an amorphous alumina matrix. EMN meeting on Nanowires. Dubrovnik, Hrvatska.
8. Oct 2016, *Application of GISAXS on study of three-dimensional quantum dot lattices, SAXS on nanosystems*, Current trends and perspectives. 20 years of Austrian SAXS beamline. Trieste, Italy, Invited lecture
9. Sep. 2016, *Ge/Si core/shell quantum dot lattices in alumina matrix: fabrication and optical properties*, CMD26, Groningen, Netherlands, Invited lecture
10. Aug 2016, *Structural study of three-dimensional quantum dot lattices by GISAXS*, XVI International Conference on Science, Arts and Culture, 29.08-02.09.2016. Veli Lošinj, Croatia. Invited lecture
11. Aug 2016, *Self-ordered Ge-based core/shell quantum dots in glass matrix*, IVC20- Busan, S. Korea Invited lecture.
12. July 2016, *Self-ordered Ge-based nanostructures in glasses: fabrication, properties and application*, Nanotexnology 2016, Thessaloniki, Greece. Invited lecture.
13. May 2016, *Germanium/Silicon core/shell quantum dots in alumina matrix: fabrication, characterization and absorption properties*, Energy Materials Nanotechnology –EMN16, Dubrovnik, Croatia. Invited lecture.
14. Sep 2015, *Grazing-incidence small-angle X-ray scattering: application to the study of quantum dot lattices*, GISAS2015, Nice, France. Invited lecture
15. Oct 2014: "*Self-assembly of quantum dots in glasses: design of amorphous materials by magnetron sputtering deposition"* ICTF-16: International Conference on Thin films, Dubrovnik, Croatia. Invited lecture.
16. Sep 2013: Tutorial: "*Grazing incidence small angle x-ray scattering-GISAXS*" 9th Autumn school on x-ray Scattering from Surfaces and Thin films, Smolenice, Slovakia. Invited (tutorial) lecture
17. Sep 2013: "*Self-assembly of semiconductor quantum dots in amorphous dielectric matrix*", JVC-19, Pariz, France. Invited talk
18. Sep 2012 "*Formation of three dimensional quantum dot lattices in amorphous systems* " EMRS Fall Meeting, Warshaw, Poland. Invited lecture.
19. Jun 2011; "*Self-assembly of Ge nanoclusters in amorphous matrices*", 18th International meeting: Vacuum Science and Technique, Bohinj, Slovenia. Invited lecture.
20. July 2010; "*Structural properties of semiconductor quantum dots*" 17th International meeting: Vacuum Science and Technique, Tuhelj, Croatia, Jun 01 2010. Invited talk.
21. Jun 2010 ; "*Production and design of regularly ordered quantum dot lattices in anmorphous matrices*", 13th Joint Vacuum Conference , Štrbske Pleso, Slovačka, 20-24. Jun 2010. Invited talk.
22. May 2010; "*Application of Monte-Carlo method on simulations of the growth of Ge quantum dot lattices in amorphous matrices*"; Workshop on Designing and applying computational tools for reliable prediction of metal oxide properties, Zagreb, Croatia. Invited talk.

B. Invited seminars (9 invited seminars):

1. Jun 2017, *Production of self-assembled nanostructures in glasses by magnetron sputtering,* Slovak Academy of Science, Bratislava, Slovakia
2. Aug 2015. *Self-assembled quantum dots in glasses*, Van der Waals-Zeeman Instituut, Amsterdam, Netherlands. Invited seminar
3. Nov 2014; *„Nanonetworks of quantum dots in glasses*", Massachusetts Institute of Technology-MIT, Laboratory for Nanophotonics and Electronics, Cambridge, USA, Invited seminar
4. Jan 2013: "*Applications of materials based on self-assembled quantum dots in nanotechnology*". Ruđer Bošković Institute, Zagreb, Croatia. Invited seminar
5. July 2011 "*Preparation and characterization of self assembled quantum dots in amorphous matrices*" Helmholtz-Zentrum Dresden Rossendorf, Germany. Invited Seminar.
6. May 2009; "*Formation of three-dimensional quantum dot lattices in amorphous systems*" University of Minho, Braga, Portugal. Invited seminar.
7. November 2008; "*Ge quantum dots in amorphous silica matrix: Determination of defects in crystal structure by using of Debye equation*" Charles University in Prague, Czech Republic. Invited seminar.
8. Nov2008; "*Growth and characterization of Carbon nanoclusters in amorphous matrix*" Forschungzentrum Dresden Rossendorff, Germany. Invited seminar.
9. Aug 2008; "*Properties of Ge quantum dots in amorphous SiO2 matrix*" Charles University in Prague, Czech Republic. Invited seminar.

B Awards

1. 2013 Annual prize of Director of the Ruđer Bošković Institute
2. 2013 Donation of ADRIS group: *Solar Cells on glass based on self-assembled nanoparticles in amorphous matrices.* 160000 HRK.
3. 2012 Annual prize of Ruđer Bošković Institute
4. 2011 Annual prize of Director of the Ruđer Bošković Institute
5. 2010 Annual prize of Director of the Ruđer Bošković Institute
6. 2007 Chairman MIPRO HU Award for exceptional and outstanding paper: M. Ivanda, M. Buljan et al., *Coherent Raman Scattering of Acoustical Vibrations of Three-dimensional Ge quantum Dot Supracrystals.*

ORGANIZATIONAL SKILLS AND COMPETENCES

(CHRONOLOGICALLY; ORGANIZATION OF HOME AND INTERNATIONAL SCIENCE EVENTS)

- 26th International Scientific Meeting on Vacuum Science and Technique, 2019, Croatia. Chair.
-2017, 24th *International Scientific Meeting on Vacuum Science and Technique, Zadar,* Croatia. Chair.
-2015, *22nd International Conference on Ion Beam Analysis IBA-2015*, Croatia. Organizer.
-2014, E-MRS, Fall meeting, Warsaw. Organizer
-2014; *16th international conference on thin films*- ICTF. Dubrovnik, Croatia. Organizer.
-2014; *15th joint vacuum conference, Vienna, Austria. Organizer.*
-2014; 21th meeting: Vacuum science and technology, Samobor, Croatia, Organizer.
-2013; *20th meeting: Vacuum science and technology*, Jerusalem, Slovenia, Organizer.
-2012; ASON-2 Adriadic school on Nanoscience. Dubrovnik, Croatia, 2012. Organizer, Vice Chair
-2012; *14th joint vacuum conference, 12th Europian Vacuum Conference, 11th Annual Meeting of the German Vacuum society, Croatian-Slovenian Annual Meeting on Vacuum Science and technique,* Dubrovnik, Croatia, 2012. Organizer.
-2010; *41. International Physics Olympiad*, Zagreb, Croatia, 2010. Reviewer

MEMBERSHIP IN SCIENCE ORGANIZATIONS AND BODIES

(CHRONOLOGICALLY; HOME AND INTERNATIONAL ORGANIZATIONS AND BODIES)

2017-now; President of Croatian Vacuum Society
2015-2016; member of steering committee of Croatian Physical Society
2014-2017; Vice president of Croatian Vacuum Society
2014-now; Representative of Croatia for ESUO (European user synchrotron organization)
2013-now; Representative of the Nanometer Structure Division of the IUVSTA

COMMISSIONS, COMMITTEES, BOARDS AND WORK GROUPS

(CHRONOLOGICALLY; HOME AND INTERNATIONAL)

2014-…; Croatian Vacuum Society
2011; Temporary Scientific Council of Physics
-2005-2008; Assistant Council

PAPERS

(CHRONOLOGICALLY; RESEARCH BOOKS, HOME AND INTERNATIONAL RESEARCH JOURNALS, HOME AND INTERNATIONAL CONFERENCE PROCEEDINGS; ; **PLEASE PROVIDE THE H INDEX AND THE TOTAL NUMBER OF CITATIONS**)

62 published papers (WoS), total number of citations 499, h-index 12.

A: List of top ten publications (5-year IF (2017) is indicated)

1. **M. Buljan**, M. Karlušić, N. Nekić, M. Jerčinović, I. Bogdanović-Radović, S. Bernstorff, N. Radić, I. Mekterović. *GISAXS analysis of ion beam modified films and surfaces* , Comp. Phys. Comm. 212, 69-81, (2017)

   IF 3.506, Q1, cit. 0

2. N. Nekić, J. Sancho Parramon, I. Bogdanović-Radović, J. Grenzer, R. Huebner, M. Ivanda, **M. Buljan**. *Ge/Si core/shell quantum dots in alumina: tuning the optical absorption by the core and shell size* Nanophotonics 6 (5), 1055-1062 (2017).

   IF 5.723, Q1, cit:0

3. **M. Buljan**, S. Facsko, I. Delač Marion, V. Mikšić Trontl, M. Kralj, M. Jerčinović, C. Baehtz, A. Muecklich, V. Holý, N. Radić, J. Grenzer. *Self-assembly of Ge quantum dots on periodically corrugated Si surfaces*. Appl. Phys. Lett. 107, 203101 (2015).

   IF 3.34, Q1, cit: 0

4. **M. Buljan**, N. Radić, J. Sancho-Paramon, V. Janicki, J. Grenzer, I. Bogdanović-Radović, Z. Siketić, M. Ivanda, A. Utrobičić, R. Hübner, R. Weidauer, V. Valeš, J. Endres, T. Car, M. Jerčinović, J. Roško, S. Bernstorff, V. Holy, *Production of three-dimensional quantum dot lattice of Ge/Si core–shell quantum dots and Si/Ge layers in an alumina glass matrix*. Nanotechnology 26, 065602, (2015)

   IF 3.578, cit: 2

5. **M. Buljan**, M. Jerčinović, Z. Siketić, I. Bogdanović-Radović, I. Delač, M. Kralj, M. Ivanda, A. Turković, G. Dražić, S. Bernstorff, N. Radić, *Tuning the growth properties of Ge quantum dot lattices in amorphous oxides by matrix type,* J. Appl. Cryst. 46, 1490-1500 (2013).

   IF 4.901, cit: 7

6. **M. Buljan**, O. Roshchupkina , A. Šantić, C-. Baehtz, A. Muecklich, L. Horak, V. Vales, N. Radić, S. Bernstorff, and Joerg Grenzer, *Growth of a three-dimensional anisotropic lattice of Ge quantum dots in an amorphous alumina matrix*, J. Appl. Cryst. 46, 709-715, (2013) (Izabran za temu *Elettra Highlights* 2012-2013)

   IF: 4.681, cit: 3

7. **M. Buljan**, N. Radić, S. Bernstorff, G. Dražić, I. Bogdanović-Radović,V. Holý, *Grazing incidence small angle x-ray scattering: application in study of quantum dot lattices*, Acta Cryst. A, 68, 124 (2012).

   IF: 3.505, cit: 35

8. **M. Buljan**, S.R.C. Pinto, A.G. Rolo, J. Martin Sanchez, M.J.M. Gomes, A. Mücklich, S. Bernstorff, V. Holy; *Self-assembling of Ge quantum dots in an alumina matrix*, Phys. Rev. B **82** 235407 (2010). (izabran za *Virtual Journal of Nanoscience and Nanotechnology*, 22, issue 25, 2010).

   IF: 3.711, cit: 18

9. **M. Buljan,** I. Bogdanović-Radović, M. Karlušić, U.V. Desnica, G. Dražić, N. Radić, P. Dubček, K. Salamon, S. Bernstorf, V. Holý. "*Formation of long range ordered quantum dots arrays in amorphous matrix by ion beam irradiation*", Appl. Phys. Lett. **95**, 063104 (2009).

   IF=3.34, cit: 21

10. **M. Buljan**, U.V. Desnica, G. Dražić, M. Ivanda, N. Radić, P. Dubček, K. Salamon, S. Bernstorf, V. Holý. " *Formation of three-dimensional quantum dot superlattices in amorphous systems: Experiments and Monte Carlo simulations*", Phys. Rev. B **79**, 035310 (2009).

    IF: 3.711, citata 47

B: List of all publications (62)

2019:

1.
2. V. Despoja, L. Basioli, J. Sancho Parramon and M. Mičetić Optical absorption in array of Ge/Al-shell nanoparticles in an Alumina matrix. Sci Rep (2019)
3. L. Basioli, K. Salamon, M. Tkalčević, I. Mekterović, S. Bernstorff and M. Mičetić. Application of GISAXS in the Investigation of Three-Dimensional Lattices of Nanostructures Crystals 9, 479 (2019)
4. M. Karlušić, M. Škrabić, M. Majer, **M. Buljan**, V. Skuratov, H.K. Jung, O.Gamulin, M. Jakšić; *Infrared spectroscopy of ion tracks in amorphous SiO2 and comparison to gamma irradiation induced changes Journal of Nuclear Materials 514 74-83 (2019)*
5. N Ray, N Gupta, M. Adhikary, N. Nekić, L. Basioli, G. Dražić, S. Bernstorff & **M Mičetić** Infuence of Structure on Electronic Charge Transport in 3D Ge Nanowire Networks in an Alumina Matrix, Sci Rep. 9:5432 2019
6. N Nekić, I Šarić, K Salamon, L Basioli, J Sancho-Parramon, J Grenzer, R Hübner, S Bernstorff, M Petravić, and **M Mičetić** Preparation of non-oxidized Ge quantum dot lattices in amorphous Al2O3, Si3N4 and SiC matrices, Nanotechnology, 30(33) 335601 2019

2018:

7. M. Mozetič, A. Vesel, G. Primc, C. Eisenmenger-Sittner, J. Bauera, A. Eder, G.H.S. Schmid, D.N. Ruzic, Z. Ahmed, D. Barker, K.O. Douglass, S. Eckel, J.A. Fedchak, J. Hendricks, N. Klimov, J. Ricker, J. Scherschligt, J. Stone,G. Strouse, I. Capan, **M. Buljan**, S. Milošević, C. Teichert, S.R. Cohen, A.G. Silva, M. Lehocky, P. Humpoliček, C. Rodriguez, J. Hernandez-Montelongo, D. Mercier,M. Manso-Silván, G. Ceccone, A. Galtayries, K. Stana-Kleinschek, I. Petrov,J.E. Greene, J. Avila, C.Y. Chen, B. Caja-Munoz, H. Yi, A. Boury, S. Lorcy,M.C. Asensio, J. Bredin, T. Gans, D. O'Connell, J. Brendin, F. Reniers, A. Vincze,M. Anderle, L. Montelius; *Recent developments in surface science and engineering, thin films, nanoscience, biomaterials, plasma science, and vacuum technology;* Thin Solid Films 660 120-160 (2018)

2017:

3. M. Buljan, M. Karlušić, N. Nekić, M. Jerčinović, I. Bogdanović-Radović, S. Bernstorff, N. Radić, I. Mekterović, *GISAXS analysis of ion beam modified films and surfaces,* Comp. Phys. Comm. 212, 69-81, (2017).

4. K. Salamon, **M. Buljan,** I. Saric, M. Petravic, S. Bernstorff, *Ta2N3 nanocrystals grown in Al2O3 thin layers.* Bilstein J. Nanotech. 8, 2162-2170 (2017).

5. T. Car, A. Šantić, N. Ray, N. Nekić, K. Salamon, S. Bernstorff, and **M. Buljan.** Appl. Phys. Lett. 111, 172104 (2017) .

6. S. A. Mezzasalma, T. Car, N. Nekic, M. Jercinovic, **M. Buljan**. *Temperature behaviour of the average size of nanoparticle lattices co-deposited with an amorphous matrix. Analysis of Ge + Al2O3 and Ni + Al2O3 thin films.* J. Phys. C 29(43). 435301 (2017).

7. J. Endres, V. Holy, S. Danis, **M. Buljan.** *Kinetic Monte Carlo simulation of growth of Ge quantum dot multilayers with amorphous matrix.* J. Nanopart. Res. 19 (4) 135 (2017).

8. N. Nekić, J. Sancho Parramon, I. Bogdanović-Radović, J. Grenzer, R. Huebner, M. Ivanda, **M. Buljan**. *Ge/Si core/shell quantum dots in alumina: tuning the optical absorption by the core and shell size.* Nanophotonics 6 (5), 1055-1062 (2017).

2016:

9. T. Car, N. Nekić, M. Jerčinović, K. Salamon, I. Bogdanović-Radović, I. Delač Marion, J. Dasović, G. Dražić, M. Ivanda, S. Bernstorff, B. Pivac, M. Kralj, N. Radić, **M. Buljan**. *Closely packed Ge quantum dots in ITO matrix: influence of Ge crystallization on optical and electrical properties*. Mat. Res. Express. 3 065003 (2016)

10. M Karlušić, S. Bernstorff, Z. Siketić, B. Šantić, I. Bogdanović-Radović, M. Jakšić, M. Schleberger, **M. Buljan**. *Formation of swift heavy ion tracks on rutile TiO2 (001) surface* J. Appl. Cryst. 49, 1704 (2016)

11. I. Bogdanović-Radović, **M. Buljan**, M. Karlušić, M. Jerčinović, G. Dražič, S. Bernstorff, R. Boettger. *Modification of semiconductor or metal nanoparticle lattices in amorphous alumina by MeV heavy ions*, New Journal of Phys. 18, 093032 (2016)

2015:

4. **M. Buljan**, N. Radić, J. Sancho-Paramon, V. Janicki, J. Grenzer, I. Bogdanović-Radović, Z. Siketić, M. Ivanda, A. Utrobičić, R. Hübner, R. Weidauer, V. Valeš, J. Endres, T. Car, M. Jerčinović, J. Roško, S. Bernstorff and V. Holy. *Production of three-dimensional quantum dot lattice of Ge/Si core–shell quantum dots and Si/Ge layers in an alumina glass matrix*. Nanotechnology 26 065602 (2015).

5. **M. Buljan**, S. Facsko, I. Delač Marion, V. Mikšić Trontl, M. Kralj, M. Jerčinović, C. Baehtz, A. Muecklich, V. Holý, N. Radić, and J. Grenzer, Self-assembly of Ge quantum dots on periodically corrugated Si surfaces. Appl. Phys. Lett. 107, 203101 (2015).

6. M. Karlusic, R. Kozubek, H. Lebius, B. Ban-d'Etat, B R. A. Wilhelm, **M. Buljan**, Z. Siketic, F. Scholz, T. Meisch, M. Jaksic, S. Bernstorff, M. Schleberger, B. Santic, *Response of GaN to energetic ion irradiation: conditions for ion track formation*. J. Appl. Phys. D 48, 325304 (2015)

2014

7. M. Krause, **M. Buljan**, A. Muecklich, W. Moeller, M. Fritzsche, S. Facsko, R.Heller, M. Zschornak, S. Wintz, J. L. Endrino, C. Baehtz, A. Shalimov, S. Gemming, and G. Abrasonis*. Compositionally modulated ripples during composite film growth: Three-dimensional pattern formation at the nanoscale Phys*. Rev. B **89**, 085418 (2014)

8. M. Jerčinović, N. Radić, **M. Buljan**, J. Grenzer, I. Delač-Marion, M. Kralj, I. Bogdanović-Radović, R. Huebner, P. Dubček, K. Salamon, S. Bernstorff. *Self-assembled growth of Ni nanoparticles in amorphous alumina matrix*. J Nanopart Res. 16, 2296 (2014)

9. Sekhar, KC; S. Levichev,; **M. Buljan**, S. Bernstorff, K. Kamakshi, A. Chahboun, A. Almeida, J.A. Moreira, M. Pereira, M.J.M. Gomes, *Effect of bi-layer ratio in ZnO/Al2O3 multilayers on microstructure and functional properties of ZnO nanocrystals embedded in Al2O3 matrix,* Appl. Phys. A, 115 283-289 (2014).

10. V. Vales, **M. Buljan**, V. Janicki, S. Bernstorff, S. Mangold, Z. Siketic, O. Schneeweiss, V. Holy, Fe2O3/TiO2 nanoparticles-a complex structural study. Thin Solid Films **564**, 65-72 (2014)

11. J. Borges, **M. Buljan**, J. Sancho-Parramon, I. Bogdanovic-RadovicZ. Siketic, T. Scherer, C. Kubel, S. Bernstorff, A. Cavaleiro, F. Vaz, A. G. Rolo, *Evolution of the surface plasmon resonance of Au:TiO2 nanocomposite thin films with annealing temperature*. J. Nanoprt. Res. 16, 2760 (2014)

12. M. Mozetič, K Ostrikov D. N. Ruzic, D. Curreli, U. Cvelbar, A. Vesel, G. Primc, M. Leisch, K. Jousten, O. B. Malyshev, J. H. Hendricks, L. Koever, A. Tagliaferro, O. Conde, A. J. Silvestre, J Giapintzakis, **M. Buljan**, N. Radić, G. Dražić, S. Bernstorff, H. Biederman, O. Kyli´an, J. Hanuš, S. Milošević, A. Galtayries, P. Dietrich, W. Unger, M. Lehocky, V. Sedlarik, K. Stana-Kleinschek, A. Drmota-Petrič, J. J. Pireaux, J. W. Rogers, M. Anderle. *Recent advances in vacuum sciences and applications. Topical Review.* J. Phys. D: Appl. Phys. **47** 153001 (2014).

2013

13. S. Bernstorff, V. Holy, J. Endres, V. Vales, J. Sobota, Z. Siketic, I. Bogdanovic-Radovic, **M. Buljan**, G. Drazic, *Co nanocrystals in amorphous multilayers - a structure study*, J. Appl. Cryst. 46, 1711-1721 (2013)

14. **M. Buljan**, M. Jerčinović, Z. Siketić, I. Bogdanović-Radović, I. Delač, M. Kralj, M. Ivanda, A. Turković, G. Dražić, S. Bernstorff, N. Radić, Tuning the growth properties of Ge quantum dot lattices in amorphous oxides by matrix type J. Appl. Cryst. 46, 1490-1500 (2013).

15. E. Viera, S. Levichev, C. J. Dias, R. Igreja, **M. Buljan**, S. Bernstorff, O. Conde, A. Chahboun, A.a G. Rolo, and M. J.M. Gomes. Eur. Phys. J. B. 86, 336 (2013)

16. M. Karlušić, M. Jakšić, **M. Buljan**, J. Sancho-Parramon, I. Bogdanović-Radović, N. Radić, S. Bernstorff" *Materials modification using ions with energies below 1 MeV/u*". Nucl. Insrt. Meth. In print, (2013)

17. A. Turković, P. Dubček, K. Juraić, S. Bernstorff, **M. Buljan**, *„Study of polymer electrolyte for Zn rechargeable nanostructured galvanic cells via combined in situ SAXS/DSC/WAXD measurements*", American Journal of Nanoscience and Nanotechnology; 1(1), 6-10, (2013)

18. S. Haviar, M. Dubau, I. Khalakhan, M. Vorokhta, I. Matolinova, V. Matolin, V. Valeš, J. Endres, V. Holy, **M. Buljan**, and S. Bernstorff *„X-ray small-angle scattering from sputtered CeO_2/C bilayers*", J. Appl. Phys. 113, 024301 (2013)

19. **M. Buljan**, N. Radić, I. Bogdanović-Radović, Z. Siketić, K. Salamon, M. Jerčinović, M. Ivanda, G. Dražić, S. Bernstorff" *Influence of annealing conditions on the structural and photoluminescence properties of Ge quantum dot lattices in a continuous Ge+Al_2O_3 film*" Phys. Status Solidi A, **210,** 1516–1521 (2013).

20. **M. Buljan**, O. Roshchupkina , A. Šantić, C-. Baehtz, A. Muecklich, L. Horak, V. Vales, N. Radić, S. Bernstorff, and Joerg Grenzer, *„Growth of a three-dimensional anisotropic lattice of Ge quantum dots in an amorphous alumina matrix*", J. Appl. Cryst. 46, 709-715, (2013)

21. **M. Buljan**, N. Radić, M. Ivanda, I. Bogdanović- Radović, M. Karlušić J. Grenzer, S. Prucnal, G. Dražić, G. Pletikapić, V. Svetličić, M. Jerčinović, S. Bernstorff Sigrid, V. Holy. *"Ge quantum dot lattices in Al2O3 multilayers".* J. Nanoparticle Res. **15, 1485** (2013)

22. E. M. F. Vieira, J. Martın-Sanchez, M. A. Roldan, M.Varela, **M. Buljan**, S. Bernstorff, N. P. Barradas, N. Franco, M. R. Correia, A. G. Rolo, S. J. Pennycook, S. I. Molina, E. Alves, A. Chahboun, and M. J. M. Gomes, "*Influence of RF-sputtering power on formation of vertically stacked $Si_{1-x}Ge_x$ nanocrystals between ultra-thin amorphous Al_2O_3 layers: structural and photoluminescence properties"*. J. Phys. D: Appl. Phys. **46**, 385301 (2013).

2012

23. I. Bogdanović-Radović, **M. Buljan**, M. Karlušić, N. Skukan, I. Božičević, M. Jakšić, G. Dražić and S. Bernstorff, "*Ordering of germanium quantum dots in amorphous matrices by MeV ion beams – Comparison with standard thermal annealing*", Phys. Rev. B, 86 165316 (2012)
24. S. R. C. Pinto, **M. Buljan**, L. Marques, J. Martín-Sánchez, O. Conde, A. Chahboun, A. R. Ramos, N. P. Barradas, E. Alves, S. Bernstorff , J. Grenzer, A. Mücklich, M. M. D. Ramos, M. J. M. Gomes, *Influence of annealing conditions on formation of regular lattices of voids and Ge quantum dots in amorphous alumina matrix*, Nanotechnology **23**, 405605 (2012)
25. **M. Buljan**, M. Karlusic, I. Bogdanovic-Radovic, M. Jaksic, K. Salamon, S. Bernstorff, N. Radic, "*Determination of ion track radii in amorphous matrices formation of nano-clusters by ion-beam irradiation*", Appl. Phys. Lett. **101**, 103112 (2012)
26. E. M. F. Vieira, J. Martín-Sánchez, A. G. Rolo, A. Parisini, **M. Buljan**, I. Capan, E. Alves, N. P. Barradas, O. Conde, S. Bernstorff, A. Chahboun, S. Levichev, and M. J. M. Gomes "*Structural and electrical studies of ultrathin layers with $Si_{0.7}Ge_{0.3}$ nanocrystals confined in a SiGe/SiO2 superlattice",* J. Appl. Phys. **111**, 104323 (2012)
27. **M. Buljan**, U. V. Desnica, I. Bogdanović-Radović, N. Radić, M. Ivanda, G. Dražić, S. Bernstorff, V. Holý. *Preparation of regularly ordered Ge quantum dot lattices in amorphous matrices.* Vacuum. **86**, 733-736 (2012)
28. S. R. C. Pinto, **M. Buljan**, A. Chahboun, M. A. Roldan, S. Bernstorff, M. Varela, S. J. Pennycook, N. P. Barradas, E. Alves, S. I. Molina, M. M. D. Ramos, and M. J. M. Gomes, "*Tuning the properties of Ge-quantum dots superlattices in amorphous silica matrix through deposition conditions*" J. Appl. Phys. **111**, 074316 (2012)
29. **M. Buljan**, N. Radić, S. Bernstorff, G. Dražić, I. Bogdanović-Radović,V. Holý, *"Grazing incidence small angle x-ray scattering: application in study of quantum dot lattices*", Acta Cryst. A, **68**, 124 (2012).
30. V. Valeš, V. Holý, **M. Buljan**, V. Janicki, S. Bernstorff. *Structural and morphological properties of Fe2O3/TiO2 nanocrystals in silica matrix*. Thin Solid Films. **520,** 4800, (2012)

2011

31. **M. Buljan**, I. Bogdanović-Radović, M. Karlušić, K. Salamon, G. Dražić, U.V. Desnica, N. Radić, S. Bernstorff , M. Jakšić and V. Holý, "*Design of quantum dot lattices in amorphous matrices by ion beam irradiation*", Phys. Rev. B **84**, (2011) 15531
32. D. Ristić, V. Holý, M. Ivanda, M. Marciuš, **M. Buljan**, O. Gamulin, K. Furić, M. Ristić, S. Musić, M. Mazzola, A. Chiasera, M. Ferrari and G.C. Righini;" *Surface characterization of thin silicon-rich oxide films*"; J. Mol. Structure 993 214-218 (2011).
33. V. Janicki, J. Sancho-Parramon, H. Zorc, K. Salamon, **M. Buljan**, N. Radić, U. Desnica, *"Ellipsometric study of thermally induced redistribution and crystallization of Ge in Ge:SiO_2 mixture layers*"; Thin Solid Fims **519** (16) 5419-5423 (2011)
34. V. Holy, **M. Buljan**, R. Lechner. "*X-ray characterization of semiconductor nanostructures"*. Semiconductor science and technology. **26** (2011), 6; 064002.
35. E.M.F. Viera.; S. R. C. Pinto, S. Levichev, A. G. Rolo, A. Chahboun **M. Buljan**, N. P. Barradas, E. Alves, S. Bernstorff, O. Conde, M. J. M. Gomes. "*Influence of the deposition parameters on the growth of SiGe nanocrystals embedded in Al2O3 matrix.* Microelectronic engineering. **88** (2011) ; 509-5013
36. S.R.C. Pinto, A. G. Rolo, **M. Buljan**, A. Chahboun, S. Bernstorff, N. P. Barradas, E. Alves, R. J. Kashtiban, U. Bangert, M.J.M. Gomes. "*Low-temperature fabrication of layered self-organized Ge clusters by RF sputtering*", Nanoscale Research Letters **6** (2011) 341.

2010:

37. **M. Buljan**, S.R.C. Pinto, A.G. Rolo, J. Martin Sanchez, M.J.M. Gomes, A. Mücklich,S. Bernstorff, V. Holy; "*Self-assembling of Ge quantum dots in an alumina matrix*", Phys. Rev. B 82 235407 (2010).
38. **M. Buljan**, J. Grenzer, V. Holý, N. Radić, T. Mišić-Radić, S. Levichev, S. Bernstorff, B. Pivac, I. Capan;"*Structural and charge trapping properties of two bi-layer (Ge+SiO2)/SiO2 films deposited on rippled substrate*"; Appl. Phys. Lett. 97, 163117 (2010).
39. S. R. C Pinto, A. G. Rolo, M. J. M. Gomes, M. Ivanda, I. Bogdanović-Radović, J. Grenzer, A. Mücklich, D. Barber, S. Bernstorff, **M. Buljan**;" *Formation of void lattice after annealing of Ge quantum dot lattice in alumina matrix*" Appl. Phys. Lett. 97 173113, (2010).
40. **M. Buljan**, J. Grenzer, A. Keller, N. Radić, V. Valeš, S. Bernstorff, T. Cornelius, H. T. Metzger, V. Holý;"*Growth of spatially ordered Ge nanoclusters in an amorphous matrix on rippled substrate*" Phys. Rev. B **82**, 125316 (2010).
41. S. R. C. Pinto, R. J. Kashtiban, A. G. Rolo, **M. Buljan**, A. Chahboun, U. Bangert, N. P. Barradas, E. Alves and M. J. M. Gomes; "*Structural study of Si_xGe_{1-x} nanocrystals embedded in SiO_2 films*", Thin Solid Films **518,** 2569 (2010).
42. S.R.C. Pinto, A.G. Rolo, A. Chahboun, **M. Buljan**, A. Khodorov, R.J. Kashtiban, U. Bangert, N.P. Barradas, E. Alves, S. Bernstorff, M.J.M. Gomes, Microelectron. Eng. **87,** 2508 (2010).
43. **M. Buljan**, I. Bogdanović-Radović, M. Karlušić, U.V. Desnica, N. Radić, N. Skukan, G. Dražić, M. Ivanda, Z. Matej, V. Valeš, J. Grenzer, T. Cornelius, H. T. Metzger, V. Holý; "*Generation of an ordered Ge quantum dot array in an amorphous silica matrix by ion beam irradiation: Modeling and structural characterization* ", Phys. Rev. B **81** 085321 (2010).

2009:

44. **M. Buljan** , S. R. C. Pinto, R. J. Kashtiban, A. G. Rolo, A. Chahboun, U. Bangert, S. Levichev, V. Holý, and M. J. M. Gomes; "*Size and Spatial homogeneity of SiGe quantum dots in amorphous silica matrix*", J. Appl. Phys. **106,** 084319(2009).
45. **M. Buljan**, I. Bogdanović-Radović, M. Karlušić, U.V. Desnica, G. Dražić, N. Radić, P. Dubček, K. Salamon, S. Bernstorff, V. Holý; "*Formation of long range ordered quantum dots arrays in amorphous matrix by ion beam irradiation*", Appl. Phys. Lett. **95**, 063104 (2009).
46. **M. Buljan**, U.V. Desnica, G. Dražić, N. Radić, Z. Matej, V. Valeš, V. Holý; " *Crystal structure of defect-containing semiconductor nanocrystals- an X-ray diffraction study*", J. Appl. Cryst. **42**, 1 (2009).
47. **M. Buljan**, U.V. Desnica, G. Dražić, M. Ivanda, N. Radić, P. Dubček, K. Salamon, S. Bernstorff, V. Holý; " *The influence of deposition temperature on the correlation of Ge quantum dots positions in amorphous silica matrix*", Nanotechnology **20**, 085612 (2009).
48. **M. Buljan**, U.V. Desnica, G. Dražić, M. Ivanda, N. Radić, P. Dubček, K. Salamon, S. Bernstorff, V. Holý; " *Formation of three-dimensional quantum dot superlattices in amorphous systems: Experiments and Monte Carlo simulations*", Phys. Rev. B **79**, 035310 (2009).
49. K. Salamon, O. Milat, **M. Buljan**, U.V. Desnica, N. Radić, P. Dubček, S. Bernstorff; "*Grazing incidence X-ray study of Ge nanoparticle formation in (Ge:SiO_2)/SiO_2 multilayers*", Thin Solid Films, **517**, 1899 (2009).

2008:

50. M. Ivanda , K. Furić, U. Desnica , **M. Buljan** , M. Montagna , M. Ferrari, A. Chiasera , Y. Jestin; "*Raman scattering on quadrupolar vibrational modes of spherical nanoparticles*", J. Appl. Phys. **104**, 073519 (2008).
51. **M. Buljan**, C. Saguy, I. Bogdanović-Radović, U.V. Desnica, M. Ivanda, I. Djerdj, A. Tonejc, O. Gamulin, M. Jakšić, R. Kalish; "Implantation *conditions for diamond nanocrystals formation in amorphous silica*", J. Appl. Phys. **104**, 034315 (2008) .
52. I. D. Desnica Franković, K. Furić, U. V. Desnica, P. Dubček, **M. Buljan**, S. Bernstorff ; "*Complemantary application of Raman scattering and GISAXS in characterization of embedded semiconductor QDs*", Superlattices and Microstructures **44**, 385-394 (2008).
53. U.V. Desnica, K. Salamon, **M. Buljan**, P. Dubček, N. Radić, I. D. Desnica-Franković, Z. Siketić, I. Bogdanović-Radović, M. Ivanda, S. Bernstorff;"*Formation of Ge-nanocrystals in SiO2 matrix by magnetron sputtering and post-deposition thermal treatment."*Superlattices and Microstructures **44**, 323-330 (2008).

2006:

54. I. Djerdj, A. Tonejc, M. Bijelić, **M. Buljan**, U.V. Desnica, R. Kalish, "*Transmission electron microscopy study of carbon nanophases produced by ion beam implantation*" Materials Science and Engineering C **5-7**, 1202-1206 (2006).
55. U.V. Desnica, **M. Buljan**, P. Dubček, Z. Sikatić, I. Bogdanović Radović, S. Bernstorff, U. Serincan, R. Turan; " *Ion beam Synthesis and characterization of Ge nanocrystals in SiO_2*", Nucl. Instr. Methods Phys. Res. B **249,** 843-846 (2006).

2005:

56. U.V. Desnica, P. Dubček, K. Salamon, I. D. Desnica-Franković, **M. Buljan**, S. Bernsdorff, U. Serincan, R. Turan; "The *evolution of the morphology of Ge nanocrystals formed by ion implantation in SiO_2*", Nucl. Instr. Methods Phys. Res. B **238**, 272-275 (2005).
57. I. D. Desnica-Franković, P. Dubček, **M. Buljan**, K. Furić, U. V. Desnica, S. Bernsdorff, H. Karl, I. Grobhans, B. Stritzker; "*Influence of stoichiometry deviations on properties of ion beam synthesized CdSe QDs*", Nucl. Instr. Methods Phys. Res. B **238,** 302-305 (2005).

2004:

58. U.V. Desnica, **M. Buljan**; I.D. Desnica-Franković, P. Dubček, S. Bernstorff, M. Ivanda, H. Zorc; "*Direct Ion Beam Synthesis of II-V Nanocrystals*", Nucl. Instr. Methods Phys. Res. B **216** (2004) 407-413.

2003:

59. U.V. Desnica, P. Dubček, I. D. Desnica-Franković, **M. Buljan**, K. Salamon, O. Milat, S. Bernstorff, C.W. White; "*GISAXS studies of morphology and size distribution of CdS nanocrystals formed in SiO_2 by ion implantation*", Nucl. Instr. Methods Phys. Res. B **200** (2003) 191-195.
60. U.V. Desnica, P. Dubček, I.D. Desnica-Franković, **M. Buljan**, S. Bernstorff, C.W. White; "*GISAXS studies of the synthesis and growth of CdS quantum dots from constituent atoms in SiO2 matrix*", J. Appl. Cryst. **36** (2003) 443-446.
61. I. D. Desnica-Franković, U. V. Desnica, P. Dubček, **M. Buljan**, S. Bernstorff, H. Karl, B. Stritzker; "*Ion beam synthesis of buried Zn-VI quantum dots in SiO_2 GISAXS studies*" J. Appl. Cryst. **36** (2003) 439-442.
62. **M. Buljan**, K. Salamon, P. Dubček, S. Bernstorff, I.D. Desnica-Franković-, O. Milat, U.V. Desnica; "*Analysis of 2D GISAXS patterns obtained on semiconductor nanocrystals*", Vacuum **71** (2003) 65-70.

OTHER RESEARCH ACTIVITIES

(CHRONOLOGICALLY; CHIEF EDITOR OR EDITOR OF RESEARCH BOOK, HOME AND INTERNATIONAL RESEARCH JOURNALS, HOME AND INTERNATIONAL CONFERENCE PROCEEDINGS AND OTHER)

Referee:
-Physica Status Solidi A
-Physica Status Solidi C
- Nanoscale Research Letters
-Journal of Crystal Growth
Editor:
2011; Brochure: Research in Nanoscience and Nanothechnology at Ruđer Bošković Institute

COMPUTER SKILLS

-Matlab
-Mathematica
-IDL

OTHER IMPORTANT SKILLS AND COMPETENCES

Experimental techniques (measurement and interpretation):
-Grazing incidence small angle x-rays scattering (GISAXS)
-X-ray diffraction (XRD)
-Raman scattering, low-frequency Raman
-Photoluminescence
-UV/VIS/IR spectroscopy
-reciprocal space mapping (RSM)

Material preparation techniques:
-magnetron sputtering deposition
-self-assemled growth

Theoretical work:
-Theory of small angle x-rays scattering –GISAXS from ordered structures
-Monte-Carlo simulations of self-assembly processes
-Interaction of ion beams with materials

ADDITIONAL INFORMATION AND NOTES