Naučnom Veću Instituta za Fiziku

Predmet:

Zahtev za pokretanje postupka za izbor u zvanje Naučnog saradnika

Dr. Branko Tomčik

Molim Naučno vece Instituta za Fiziku da u skladu sa Pravilnikom o postupku i načinu vrednovanja I kvantitativnom iskazivanju naučnoistrazivackih rezultata istraživaca, pokrene postupak za moj izbor u zvanje Naučnog saradnika

U Beogradu, 18.12.2015 godine

 Branko Tomčik

Научном већу Института за физику

Београд, 18. децембар 2015. г.

**Предмет: Мишљење руководиоца пројекта за избор др Бранка**

**Томчика у звање научни сарадник**

Др Бранко Томчик је запослен у Институту за физику,

Лабораторији за физику атомских сударних процеса и ангажован на

пројекту основних истраживања Министарства просвете, науке и

технолошког развоја OH 171020, под називом *„Физика судара и*

*фотопроцеса у атомским, (био)молекулским и нанодимензионим*

*системима"*. C обзиром да је изгубио претходно звање а да својим

укупним радом испуњава услове, у складу са Правилником ο поступку

и начину вредновања и квантитативном исказивању

научноистраживачких резултата Министарства просвете, науке и

технолошког развоја, сагласан сам са покретањем поступка и

предлажем избор др Бранка Томчика у звање научни сарадник.

За састав Комисије за избор др Бранка Томчика у звање научни

сарадник предлажем колеге:

(1) др Братислав Маринковић, научни саветник ИФ,

(2) др Драгутин Шевић, научни саветник ИФ,

(3) проф. др Мићо Митровић, редовни професор ФФ,

Руководилац пројекта OH 171020

др Братислав Маринковић, научни саветник

List of Publications

2010-2015

2010

## *Papers and Letters (Refereed)*

P9. B. Tomčik

“Characterization of ultrathin diamond-like carbon films”

*Contemporary Materials*, **1**(1) 74-79 (2010).

DOI: [10.5767/anurs.cmat.100101.en.074T](http://dx.doi.org/10.5767/anurs.cmat.100101.en.074T)

 (M25=1,5) previous: (M51=2 act MSTD 2008; M51=1 act MSTD 2010; if=n/a)

## *Invited Talks at International Conferences*

**Branko Tomčik**,

“Deposition and characterization of ultra thin diamond like carbon films”,

*Proc. 25th Summer School and International*Symposium on Physics of Ionized Gases SPIG, 30th Aug – 4th Sept. 2010, Donji Milanovac, Serbia, Progress Report, p. 87.

<http://webhost.rcub.bg.ac.rs/~spig2010/>

*Journal of Physics: Conference Series*, Volume **257** 012013 (2010).

<http://iopscience.iop.org/1742-6596/257/1/012013>

doi: [10.1088/1742-6596/257/1/012013](http://dx.doi.org/10.1088/1742-6596/257/1/012013)

The invitation letter: *here*

 (M31=3)

**Branko Tomčik**,

 “Characterization of Ultra Thin Diamond like Carbon Films”

Knjiga Apstrakata, Medjunarodni naučni skup "Savremeni materijali 2010" Akademija nauka i umjetnosti Republike Srpske, 2-3. juli 2010. Banja Luka, Plenarno predavanje, Predavanje po pozivu str.23.

Book of Abstracts, Int.Sci.Conf. "Contemporary Materials 2010" Academy of Sciences and Arts of the Republic of Srpska, 2nd - 3rd July 2010 Banja Luka, Plenary Lecture, Invited Lecture by Invitation, p.23.

<http://savremenimaterijali.info/index.php?idsek=38&savremenimaterijali=Program/rada>

The invitation letter: *here*

(M32=1,5)

## *Invited Talks at National Conferences*

NT4. **Branko Tomčik**,

“Proizvodnja i primena kiseoničke plazme u tretiranju površina materijala”,

Zbornik radova “*Fizika 2010 BL*”, Banja Luka, Republika Srpska, BiH, 22-24 septembar 2010. Urednik: B. Predojević, (PMF, Studijki program fizika, Banja Luka, 2011), Sekcijsko predavanje *Sudari elektrona sa atomima i molekulima*,  str. 191 – 199.

Proceedings “*Physics 2010 BL*”, Banja Luka, Republic of Srpska, BiH, 22-24 September 2010. Ed. B. Predojević, Oral presentation within the section *Electron Scattering by Atoms and Molecules*, pp.191 – 199. (in Serbian)

ISBN: 978-99955-21-21-9

<http://www.fizika.rs.ba/Physics2010BL/sr/index.html>

(M61=1,5)

##  *Contributed Papers and Abstracts at International Conferences*

[CI05.](http://mail.ipb.ac.rs/~centar3/radovi141011/2010CI4_XXESCAMPING%202010_P1-61.pdf) Branko Tomčik, Thomas Osipowicz,

“Nanolaminated advanced carbon overcoat study by Rutherford backscattering spectroscopy and Monte Carlo ion beam simulation of film growth”,

*Proc. XX European Conf. on the Atomic ad Molecular Physics of Ionized Gases* (XX ESCAMPIG), 13 – 17 July 2010, Novi Sad, Serbia, European Conference Abstracts Vol. 34B editors: Zoran Lj. Petrovic, Gordana Malovic and Dragana Maric, Poster contribution P1.61

ISBN: 2-914771-63-0

<http://www.escampig2010.ipb.ac.rs/?page=c03p1>

<http://www.escampig2010.ipb.ac.rs/papers/P1.61.pdf>

 (M33=1)

Uključen u rad na projektu: Fundamental research project, Ministry for Science and Technological Development, Republic of Serbia, No.141011 (2006-2010):

“Electron and laser spectrometry and collisional cross sections for atoms, ions, molecules, metastables and biomolecules”

Glavni istraživač: B. P. Marinković (IPB)

2011

## *Papers and Letters (Refereed)*

P3 B. Predojević, V. Pejčev, †D. M. Filipović, D. Šević, B. Tomčik and B. P. Marinković,

“Electron Impact excitation of the 3s3p 3P state of magnesium from the ground state”,

*J. Phys. B: At. Mol. Opt. Phys.* **44**, 055208 (2011) (6 pages).

<http://iopscience.iop.org/0953-4075/44/5/055208>

doi: [10.1088/0953-4075/44/5/055208](http://dx.doi.org/10.1088/0953-4075/44/5/055208)

ISSN: 0953-4075

(M21=8; if=1.910 for 2009 O\_16/71, PAMC\_15/33)

##  *Contributed Papers and Abstracts at International Conferences*

[CI08.](http://mail.ipb.ac.rs/~marinkov/text/CI143_SM2011_pp44-47_Tomcik_etal.pdf) (M34=0,5) B. Tomčik, I. Holclajtner and B.P. Marinković,

“Doping of nano-sized diamond like carbon films and their characterization by micro Raman spectroscopy”, pp.44 – 45.

“Dopiranje dijamantu sličnih ugljeničnih filmova nanometarske debljine i njihova karakterizacija pomoću mikro Ramanove spektroskopije” pp. 46 – 47.

*Proc. Int. Conf. “Contemporary Materials 2011”* 1 – 2, July 2011, Banja Luka, Republic of Srpska, BiH, The Book of Abstracts, Ed. D. Mirjanić, Poster Session, pp. 44 – 47.

<http://www.savremenimaterijali.info/>

# PROJECTS:

 FUNDAMENTAL RESEARCH PROJECT, Ministry of Education and Science, Republic of Serbia, #OI 171020 (2011-2014, 2015, 2016):

“*Physics of collisions and photo processes in atomic, (bio)molecular and nanosized systems*”

“Физика судара и фотопроцеса у атомским, (био)молекулским и нанодимензионим системима”principal investigator: B. P. Marinković (IPB)

2012

## *Papers and Letters (Refereed)*

P30. B. Tomčik, I. Holclajtner, B. P. Marinković, B. Predojević,

“Doping of nano-sized diamond like carbon films and their characterization by micro Raman spectroscopy”

*Contemporary Materials* **3**(2) 184-188 (2012).

<http://doisrpska.nub.rs/index.php/conterporarymaterials3-1/article/view/556>

[doi: 10.7251/COMEN1202184T](http://dx.doi.org/10.7251/COMEN1202184T)

ISSN 1986-8669(Print); ISSN 1986-8677 (Online)

(M25=1,5)

2013

## *Contributed Papers and Abstracts at National Conferences*

CN09. B.Tomčik, B.P.Marinković and B.Predojević,

“Calculations of ranges of B, N and H ions during the BN film growth on Co80Cr15Pt5 magnetic layer“

*3rd National Conference on Electronic, Atomic, Molecular and Photonic Physics*(CEAMPP2013) 25th August 2013, Belgrade, Serbia, Contributed Papers & Abstracts of Invited Lectures and Progress Reports, Editors: B.P. Marinković, G.B. Poparić, Contributed Papers pp.42-44.

ISBN: 978-86-84539-10-8

<http://www.ff.bg.ac.rs/CEAMPP2013/index.html>

(M63=0,5)

2014

##  *Contributed Papers and Abstracts at International Conferences*

[CI23.](http://mail.ipb.ac.rs/~centar3/radovi171020/2014_CI23_SPIG2014_p467.pdf) B. Tomčik, B. P. Marinković and B. Predojević,

“Plasma Methods in Deposition and Evaluation of Nano-Sized Carbon Films”,

*Proc. 27th Summer School and Int. Symp. on Physics of Ionized Gases* – SPIG 2014, 26th - 29th August 2014, Belgrade, Serbia, Contributed Papers & Abstracts of Invited Lectures, Topical Invited Lectures, Progress Reports and Workshop Lectures, Editors: Dragana Marić, Aleksandar R. Milosavljević and Zoran Mijatović, (IOP Belgrade and SASA, Belgrade, Serbia), Poster Presentation 3.52, pp.467-470.<http://www.spig2014.ipb.ac.rs/>ISBN: 978-86-7762-600-6. (M34=0,5)

2015

CI07. **Milutin Nešić**, Stefan Ivanović, Amela Zeković, Slavica Marinković, Branko Tomčik, Bratislav P. Marinković, and Borislav Hadžibabić

“Emulation of a memristor element using a programmable microcontroller device”,

Proceedings of Papers 2nd Int. Conf. on Electrical, Electronic and Computing Engineering (IcETRAN 2015), In conjunction with the 59th annual meeting of ETRAN Society, June 8-11, 2015, Silver Lake (Srebrno Jezero), Serbia, Eds Z. Nikolic and V. Potkonjak, Oral presentation, Section: Electric Circuits and Systems and Signal Processing, Abstract: EKI1.4, p.28-29;

Best Section Paper Award, Full paper on CD pp. EKI1.4.1-3.

Acknowledgements: grants – MESTD RS OI #171020; COST Action IC1401 “Memristors - Devices, Models, Circuits, Systems and Applications (MemoCiS)”.

ISBN: 978-86-80509-71-6 (ETRAN Society - Society for Electronics, Telecommunications, Computers, Automatic Control and Nuclear Engineering, Singidunum University, Belgrade, School of Electrical Engineering, University of Belgrade, Academic Mind)

(M33=1)

# SEMINARS in 2015:

15.09.2015. Branko Tomcik, IPB

“**Further Perspectives on the Experiments on Memristors at the IPB”**

Presentation delivered at the [workshop MEMRISTORS - DEVICES, MODELS, CIRCUITS](http://mail.ipb.ac.rs/~centar3/radovi171020/Belgrade_wshp_memristors_20150915.pdf) at the IPB

10.12.2015. Branko Tomcik

**Overview of Activities in Plasma Thin Film Technology,** at Parma University, Italy, Department of Physics

## *Other activities:*

## *COST Projects:*

IC1401 “Memristors - Devices, Models, Circuits, Systems and Applications (MemoCiS)” Start of Action: 10/12/2014, End of Action: 09/12/2018.

(P=5) Management Committee members from Serbia: Dr. Milka Potrebic (ETF Univ. of Belgrade), B. Tomčik (IPB).

(P=2) participants: B. P. Marinković (IPB).<http://www.cost.eu/COST_Actions/ict/Actions/IC1401>

Project presentation:

Emulation of a memristor element using a programmable microcontroller device, Milutin Nešić, Stefan Ivanović, Amela Zeković, Slavica Marinković, Branko Tomčik, Bratislav P. Marinković,

Poster, Memocis 2nd Workshop and MC Meeting Memristors- Devices, Models, Circuits, Systems and Applications, 2015, 08-10 November, Paphos, Cyprus