

CURRICULUM VITAE

PERSONAL DATA:

Name: Bychanok Dzmitry Siarheevich
Date of Birth 07th December, 1985
Place of Birth Zhodino, Minsk region, Belarus
Nationality: Belarus
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Home address: Belorusskaya Str., 17-37, 220030 Minsk, Belarus
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EDUCATION:

- 2003–2008 Belarusian State University, Physical Faculty, Department of Nuclear Physics.
- April-August 2007 Fridrich-Schiller University Jena, Germany.
- M. Sc. in Physics, 2009, Belarus State University, Physical Department, Minsk, Belarus. Subject of examination: general Physics, Condensed-Matter Physics.
- Ph.D. in Physics (Candidate of Science in Phys. and Math.), 2014, Inst. for Nuclear Problems, Minsk, Belarus. Thesis title: “Effects of interaction of high frequency fields with nanostructured carbon-based composite materials”

EXPERIENCE:

2007 – 2008 Laboratory Assistant, Laboratory of Electrodynamics of Inhomogeneous Media, Institute for Nuclear Problems, Belarusian State University
2008 -2010 To date Junior Researcher , Laboratory of Electrodynamics of Inhomogeneous Media, Institute for Nuclear Problems, Belarusian State University
October 2009-December 2009 “in-depth” research training in Nikolaev Institute of Inorganic Chemistry Siberian Branch of Russian Academy of Sciences (grant of RFBR 09-03-90902-mob-sng-st).
September 2010-December 2010 “in-depth” research training in Nikolaev Institute of Inorganic Chemistry Siberian Branch of Russian Academy of Sciences (grant of RFBR 10-03-90901-mob-sng-st).
September 2011-December 2011 “in-depth” research training in Nikolaev Institute of Inorganic Chemistry Siberian Branch of Russian Academy of Sciences (grant of RFBR 11-03-90905-mob-sng-st).
November 2012-February 2013 “in-depth” research training in the Lab-STICC, Universite de Bretagne Occidentale (France) (Scholarship by Universite de Bretagne Occidentale).

AWARDS

Fellowship of World Federation of Scientists 2010-2011 in topic of research: “Dielectric properties of nanocarbon-based polymer composite materials”.
Young Scientist Fellowship of President of Republic Belarus in year 2011.

LANGUAGES:

Russian, Belarusian, English, German

CURRENT RESEARCH ACTIVITY:

Theoretical and experimental investigations of electromagnetic properties of nanocarbon particles (nanotubes, onion like carbon, graphene etc.) and nanocarbon based composites. Experimental microwave measurements of electromagnetic response of composite materials.

(2006 – to date)

PUBLICATIONS

Papers:

1. D. Bychanok, G. Gorokhov, D. Meisak, P. Kuzhir, S. A. Maksimenko, Y. Wang, Z. Han, X. Gao, and H. Yue, "Design of carbon nanotube-based broadband radar absorber for ka-band frequency range," *Progress In Electromagnetics Research M*, Vol. 53, 9-16, 2017.
2. Bychanok, D., Plyushch, A., Gorokhov, G., Bychanok, U., Kuzhir, P. and Maksimenko, S., "Radar absorber based on corrugated composites with carbon fibers", *Technical Physics*, Vol. 61, No. 12, pp. 1880–1884, 2016 doi:10.1134/S1063784216120094
3. A. Plyushch, J. Macutkevic, P. Kuzhir, J. Banys, Dz. Bychanok, Ph. Lambin, S. Bistarelli, A. Cataldo, F. Micciulla, S. Bellucci "Electromagnetic properties of graphene nanoplatelets/epoxy composites", *Composites Science and Technology*, Vol. 128, p. 75–83, 2016. doi:j.compscitech.2016.03.023
4. D. Bychanok, G. Gorokhov, D. Meisak, A. Plyushch, P. Kuzhir, A. Sokal, K. Lapko, A. Sanchez-Sanchez, V. Fierro, A. Celzard, C. Gallagher, A. P. Hibbins, F. Y. Ogrin, and C. Brosseau, "Exploring carbon nanotubes/BaTiO₃/Fe₃O₄ nanocomposites as microwave absorbers," *Progress In Electromagnetics Research C*, Vol. 66, 77-85, 2016. doi:10.2528/PIERC16051106
5. Petrova, I., Kotsilkova, R., Ivanov, E., Kuzhir, P., Bychanok, D., Kouravelou, K., Karachalios, Th., Soto Beobide, A., Voyiatzis, G., Codegoni, D., Somaini, F. and Zanotti, L. (2016), Nanoscale reinforcement of polypropylene composites with carbon nanotubes and clay: Dispersion state, electromagnetic and nanomechanical properties. *Polym Eng Sci*, 56: 269–277. doi:10.1002/pen.24247
6. D. Bychanok, S. Li, A. Sanchez-Sanchez, G. Gorokhov, P. Kuzhir, F. Y. Ogrin, A. Pasc, T. Ballweg, K. Mandel, A. Szczurek, V. Fierro, and A. Celzard, Hollow carbon spheres in microwaves: Bio inspired absorbing coating, *Applied Physics Letters* 108, 013701 (2016); doi: 10.1063/1.4938537
7. E. Lobiak, D. Bychanok, E. Shlyakhova, P. Kuzhir, S. Maksimenko, L. Bulusheva, A. Okotrub, One-step preparation of multiwall carbon nanotube/silicon hybrids for solar energy conversion, *J. Nanophoton.* 10(1), 012507 (Nov 05, 2015). doi:10.1117/1.JNP.10.012507
8. D. Bychanok, A. Plyushch, K. Piasotski, A. Paddubskaya, S. Voronovich, P. Kuzhir, S. Baturkin, A. Klochkov, E. Korovin, M. Letellier, S. Schaefer, A. Szczurek, V. Fierro and A. Celzard, Electromagnetic properties of polyurethane template-based carbon foams in Ka-band, *Phys. Scr.* 90, 094019 (6pp), 2015, doi:10.1088/0031-8949/90/9/094019
9. A. Szczurek, A. Ortona, L. Ferrari, E. Rezaei, G. Medjahdi, V. Fierro, D. Bychanok, P. Kuzhir, A. Celzard, Carbon periodic cellular architectures, *Carbon*, Volume 88, July 2015, Pages 70-85, doi: 10.1016/j.carbon.2015.02.069.
10. R. Kotsilkova, E. Ivanov, D. Bychanok, A. Paddubskaya, M. Demidenko, J. Macutkevic, S. Maksimenko, P. Kuzhir, Effects of sonochemical modification of carbon nanotubes on electrical and electromagnetic shielding properties of epoxy composites, *Composites Science and Technology*, Vol. 106, pp. 85–92 (2015), doi:10.1016/j.compscitech.2014.11.004.

11. R. Kotsilkova, E. Ivanov, D. Bychanok, A. Paddubskaya, P. Kuzhir, Effect of Matrix Viscosity on Rheological and Microwave Properties of Polymer Nanocomposites with Multiwall Carbon Nanotubes, *Journal of Theoretical and Applied Mechanics*. Vol.e 44, Iss. 2, pp 83–96 (2014), doi: 10.2478/jtam-2014-0012.
12. A. Plyushch, D. Bychanok, P. Kuzhir, S. Maksimenko, K. Lapko, A. Sokol, J. Macutkevic, J. Banys, F. Micciulla, A. Cataldo and S. Bellucci, Heat-resistant unfired phosphate ceramics with carbon nanotubes for electromagnetic application, *Physica status solidi(a)*, Vol. 211, Iss. 11, pp. 2580–2585 (2014), doi: 10.1002/pssa.201431306.
13. Kranauskaitė, I.; Macutkevic, J.; Kuzhir, P.; Volynets, N.; Paddubskaya, A.; Bychanok, D.; Maksimenko, S.; Banys, J.; Juskenas, R.; Bistarelli, S.; Cataldo, A.; Micciulla, F.; Bellucci, S.; Fierro, V. & Celzard, A. Dielectric properties of graphite-based epoxy composites *Phys. Status Solidi A* 211, No. 7, 1623–1633 (2014), doi: 10.1002/pssa.201431101.
14. D. S. Bychanok, A. G. Paddubskaya, P. P. Kuzhir, S. A. Maksimenko, C. Brosseau, J. Macutkevic and S. Bellucci, A study of random resistor-capacitor-diode networks to assess the electromagnetic properties of carbon nanotube filled polymers, *Appl. Phys. Lett.* 103, 243104 (2013); doi:10.1063/1.4847335.
15. D. S. Bychanok, M. V. Shuba, P. P. Kuzhir, S. A. Maksimenko, V. V. Kubarev, M. A. Kanygin, O. V. Sedelnikova, L. G. Bulusheva, and A. V. Okotrub, Anisotropic electromagnetic properties of polymer composites containing oriented multiwall carbon nanotubes in respect to terahertz polarizer applications, *Journal of Applied Physics* 114, 114304 (2013); doi: 10.1063/1.4821773.
16. D. Bychanok, P. Kuzhir, S. Maksimenko, S. Bellucci, and C. Brosseau, Characterizing epoxy composites filled with carbonaceous nanoparticles from dc to microwave, *Journal of Applied Physics* 113, 124103 (2013); doi: 10.1063/1.4798296
17. B. J. P. Adohi, D. Bychanok, B. Haidar, and C. Brosseau, Microwave and mechanical properties of quartz/graphene-based polymer nanocomposites, *Appl. Phys. Lett.* 102, 072903 (2013); doi: 10.1063/1.4793411.
18. A. Paddubskaya, D. Bychanok, A. Plyushch, P. Kuzhir, A. Nemilentsau, S. Maksimenko, S. Bellucci, L. Coderani, F. Micciulla, I. Sacco, G. Rinaldi, J. Macutkevic, D. Seliuta, G. Valusis, J. Banys. Epoxy Resin/SWCNT shielding paint for super-high-frequency ranges, *Journal of nanoelectronics and optoelectronics*, Vol. 7, 81-86 (2012).
19. P. Kuzhir, A. Paddubskaya, D. Bychanok, G. Slepian, S. Maksimenko, J. Macutkevic, D. Seliuta, G. Valusis, J. Banys, V. Kuznetsov, S. Moseenkov, O. Shenderova, Ph. Lambin, Electromagnetic response of polymer composites with quasi-spherical nanocarbon inclusions: theory below the percolation threshold, *J Polym Eng* 31 (2011): 167–173, DOI 10.1515/POLYENG.2011.037
20. P. Kuzhir, V. Ksenevich, A. Paddubskaya, T. Veselova, D. Bychanok, A. Plusch, A. Nemi-lentsau, M. Shuba, S. Maksimenko, S. Bellucci, L. Coderoni, F. Micciulla, I. Sacco, G. Ri-naldi, CNT based epoxy resin composites for conductive applications, *Nanoscience and Nanotechnology Letters*, 2011, Vol. 3, No. 6 (6pp) doi:10.1166/nml.2011.1252.
21. D. Bychanok, M. Kanygin, A. Okotrub, M. V. Shuba, A. G. Paddubskaya, A. O. Plyushch, P. P. Kuzhir, S. A. Maksimenko, Anisotropy of electromagnetic properties of carbon nanotube based polymer composite materials in GHz frequency range, *JETPh Letters*, vol. 93, 10, pp. 669-673, 2011; doi:10.1134/S0021364011100043
22. P. Kuzhir, A. Paddubskaya, D. Bychanok, A. Nemilentsau, M. Shuba, A. Plusch, S. Maksimenko, S. Bellucci, L. Coderoni, F. Micciulla, I. Sacco, G. Rinaldi, J. Macutkevic, D. Seliuta, G. Valusis, J. Banys Microwave probing of nanocarbon based epoxy resin composite films: toward electromagnetic shielding. **Thin Solid Films** 519, 4114. doi:10.1016/j.tsf.2011.01.198 (2011)
23. I. Mazov, V. Kuznetsov, S. Moseenkov, A. Usoltseva, A. Romanenko, O. Anikeeva, T. Buryakov, P. Kuzhir, S. Maksimenko, D. Bychanok, J. Macutkevic, D. Seliuta, G. Valusis, J. Banys and Ph. Lambin, Electromagnetic shielding properties of MWCNT/PMMA composites in Ka-band. **Phys. Stat. Solidi (b)** Volume 246 Issue 11-12, Pages 2662 – 2666, DOI 10.1002/pssb.200982294, 2009.

24. J. Macutkevici, P. Kuzhir, D. Seliuta, G. Valusis, J. Banys, A. Paddubskaya, D. Bychanok, G. Slepyan, S. Maksimenko, V. Kuznetsov, S. Moseenkov, O. Shenderova, A. Mayer and Ph. Lambin, Dielectric properties of a novel high absorbing onion-like-carbon based polymer composite, **Diam Rel Mat**, Volume 19, Issue 1, January 2010, Pages 91-99, DOI: 10.1016/j.diamond.2009.11.011.
25. Polina Kuzhir, Sergey Maksimenko, Dmitry Bychanok, Vladimir Kuznetsov, Sergey Moseenkov, Ilya Mazov, Olga Shenderova, Philippe Lambin, Nano-scaled onion-like carbon: prospective material for microwave coatings, **Metamaterials**, Volume 3, Issues 3-4, November-December 2009, Pages 148-156, doi:10.1016/j.metmat.2009.07.002.
26. V. Kuznetsov, S. Moseenkov, A. Ischenko, A. Romanenko, T. Buryakov, O. Anikeeva, S. Maksimenko, P. Kuzhir, D. Bychanok, A. Gusinski, O. Ruhavets, O. Shenderova and P. Lambin, Controllable electromagnetic response of onion-like carbon based materials, **Phys. Stat. Solidi (b)**, DOI 10.1002/pssb.200879603, Volume 245 Issue 10, Pages 2051 – 2054.
27. P.P. Kuzhir, D.S. Bychanok, S.A. Maksimenko, A.V. Gusinski, O.V. Ruhavets, V.L. Kuznetsov, S.I. Moseenkov, C. Jones, O. Shenderova, Ph. Lambin, Onion-like carbon based polymer composite films in microwaves, **Solid State Sciences** Volume 11, Issue 10, October 2009, Pages 1762-1767 doi:10.1016/j.solidstatesciences.2008.12.003
28. F. Moreau, R. Langlet, Ph. Lambin, P.P. Kuzhir, D.S. Bychanok, S.A. Maksimenko, Onion-like carbon based composite films: theoretical modeling of electromagnetic response, **Solid State Sciences** Volume 11, Issue 10, October 2009, Pages 1752-1756, doi:10.1016/j.solidstatesciences.2008.10.010.
29. Bychanok, D.S.; Moseenkov, S.I.; Kuznetsov, V.L.; Kuzhir, P.P.; Maksimenko, S.A.; Batrakov, K.G.; Ruhavets, O.V.; Gusinski, A.V.; Shenderova, O.; Lambin, P.h., Onion-Like Carbon in Microwaves: Electromagnetic Absorption Bands and Percolation Effect, **Journal of Nanoelectronics and Optoelectronics**, Volume 4, Number 2, August 2009, pp. 257-260(4), doi: 10.1166/jno.2009.1031.