Curriculum Vitae

Vladimir V. Yachin

Leading researcher
Head of Department of theoretical radiophysics
Institute of Radio Astronomy of the
National Academy of Sciences of Ukraine (IRA NASU)
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PERSONAL: Date and Place of Birth: August 1,1965, Michurinsk, Russia

EDUCATION and EMPLOYMENT:

2020+	Acting Head, Department of theoretical radiophysics IRA NASU, Kharkiv, Ukraine
2019-2020	Leading researcher, IRA NASU, Kharkiv, Ukraine
2008-2019	Senior Scientist, IRA NASU, Kharkiv, Ukraine
2007	Internship at Kiyotoshi Yasumoto's Laboratory of Department of Computer Science and Communication Engineering, Kyushu State University, Fukuoka, Japan
2004-2008	Doctoral student of IRA NASU, Kharkiv, Ukraine
2004-2005	Internship at Kiyotoshi Yasumoto's Laboratory of Department of Computer Science and Communication Engineering, Kyushu State University, Fukuoka, Japan
2000-2004	Scientist, IRA NASU, Kharkiv, Ukraine
1997-2000	Junior Scientist, IRA NASU, Kharkiv, Ukraine
1993-1997	Research Engineer of the second category, IRA NASU, Kharkiv, Ukraine
1990-1993	Ph.D. student, IRA NASU, Kharkiv, Ukraine
1988-1990	Research Engineer, IRA NASU, Kharkiv, Ukraine
1983-1988	Student, School of Radiophysics, V. N. Karazin Kharkiv National University, Ukraine. M.S. Degree

TOPICS of THESES:

Ph.D.:	"Investigation of electromagnetic wave scattering on two-dimensional magnetodielectric periodic structures ." Supervisor: Prof. M. A. Khyzhnyak, IRE NASU, Kharkiv, Ukraine, 1997
Dr. Sc.:	"Electromagnetic waves scattering from three-dimensional double- periodic multilayered magnetodielectric structures.." Supervisor: Prof. S.L. Prosvirnin, IRE NASU, Kharkiv, Ukraine, 2018

CURRENT RESEARCH INTERESTS:

Investigation of electromagnetic wave scattering on various objects and structures by radiophysical methods.

AWARDS AND ACHIEVEMENTS:

2017	Title of Senior Researcher, Ministry of Education and Science, Ukraine

2017	Travel Grant of the IEEE First Ukraine Conference on Electrical and Computer Engineering (UKRCON) Kiev, Ukraine
2016	Travel Grant of the International Conference on Mathematical Methods in Electromagnetic Theory (MMET 2016) Lviv, Ukraine
2014	IEEE Senior Member
2014	Travel Grant of the International Conference on Mathematical Methods in Electromagnetic Theory (MMET 2014) Dnipropetrovsk, Ukraine
2007	Grant of the JSPS (long term), Fukuoka, Japan
2004-2005	Grant of the Matsumae International Foundation, Fukuoka, Japan
2004	Travel Grant of the International Conference on AP/EMC/EMT, Seoul, Korea
2002	NATO Travel Grant for attending the International Conference on Electromagnetics of Complex Media, Marrakesh, Morocco
2000-2002	Scholarship of the President of Ukraine for young scientists
1990-1993	Scholarship from the Radio Astronomical Institute of the National Academy of Sciences of Ukraine
1982-1988	Scholarship from the Kharkiv National University, Ukraine

PROFESSIONAL ACTIVITIES: Participation in research projects funded by the countries of the Organisation for Economic Co-operation and Development (OECD) and European Union (EU) within Framework Programme (FP-7) and via Science and Technology Center in Ukraine (STCU), and also took part in the competition topics of the NAS of Ukraine:

2015-2019	"Target comprehensive program of basic research of the National Academy of Sciences of Ukraine "Fundamental problems of creating new nanomaterials and nanotechnologies" "Theoretical and experimental studies of resonant diffraction effects on micro- and nanostructured surfaces at the submillimeter range of radio waves and determination of the physical characteristics of such surfaces" (0119U1014160)
2016-2017	Joint competition of the State Fund for Basic Research and the Belarusian Republican Fund for Basic Research (F-73) "Non-stationary processes in active micro- and nanostructures containing plasmonic and amplifying components." (0116U005693)
2010-2014	**FP7-AAT-200-RTD-1**, "ENCOMB: Extended non-destructive testing of composite bonds," Project #266225 (0110 U00665681)

ІНДЕКС ХІРША В SCOPUS:
total **H=7**, (June 05, 2020)

JOURNAL PAPERS:
in 2015-2020: 6 papers from **Q1**, **1** papers from **Q2**, **2** papers from **Q3**
in 2010-2020: 6 papers from **Q1**, **2** papers from **Q2**, **4** papers from **Q3**, **1** book chapter
Additionally, **27** papers in Scopus from proceedings of international conferences in 2010-2020.

1. S. Wu, V. V. Yachin, V. I. Shcherbinin, and V. R. Tuz, "Chiral metasurfaces formed by 3D-printed square helices: A flexible tool to manipulate wave polarization," *Journal of Applied Physics*, vol. 126, no. 10, p. 103101, 2019. **Q2** https://doi.org/10.1063/1.5114838
2. S. Wu, S. Xu, T. L. Zinenko, V. V. Yachin, S. L. Prosvirnin, and V. R. Tuz, "3D-printed chiral metasurface as a dichroic dual-band polarization converter," *Optics Letters*, vol. 44, no. 4, pp. 1056-1059, 2019. **Q1** https://doi.org/10.1364/OL.44.001056
3. V. V. Yachin, S. Y. Polevoy, L. I. Ivzhenko, S. I. Tarapov, and M. I. Nakhimovych, "Experimental verification of Faraday rotation enhancement by all-ferrodielectric

metasurface," *JOSA B*, vol. 36, no. 2, pp. 261-266, 2019. **Q1** https://doi.org/10.1364/JOSAB.36.000261

4. V. V. Yachin, T. L. Zinenko, S. V. Mizrakhy, "Resonance enhancement of Faraday rotation in double-periodic gyromagnetic layers analyzed by the method of integral functionals," *Journal of the Optical Society of America B*, vol. 35, no. 4, pp. 851-860, 2018. **Q1** https://doi.org/10.1364/JOSAB.35.000851
5. V.V. Yachin, T. L. Zinenko, "3-D Gaussian beam scattering from a gyromagnetic perforated layer: Quasi-static approach," *Optics Communications*, vol. 380, pp. 425-433, 2016. **Q1** https://doi.org/10.1016/j.optcom.2016.06.032
6. P. K. Nesterov, V. V. Yachin, T. L. Zinenko, and Y. M. Kuleshov, "Characterization of CFRP thermal degradation by the polarization-frequency reflectometry method in sub-terahertz frequency range," *IEEE Transactions on Terahertz Science and Technology*, vol.6, no 1, pp. 91-98, 2016. **Q1** https://doi.org/ 10.1109/TTHZ.2015.2503880
7. V. Yachin, L. Ivzhenko, S. Polevoy, and S. Tarapov, "Resonant response in mechanically tunable metasurface based on crossed metallic gratings with controllable crossing angle," *Applied Physics Letters*, vol. 109, no. 22, p. 221905, 2016. **Q1** https://doi.org/10.1063/1.4971191
8. V. I. Bezborodov, O. S. Kosiak, Y. M. Kuleshov, and V. V. Yachin, "Form birefringent structures matching to free space in the terahertz frequency range," *Telecommunications and Radio Engineering*, vol. 74, no. 19, pp. 1767-1776, 2015. **Q3** https://doi.org/10.1615/TelecomRadEng.v74.i19.90
9. V. I. Bezborodov, O. S. Kosiak, Y. M. Kuleshov, and V. V. Yachin, "Differential phase sections based on form birefrigence in the terahertz frequency range," *Telecommunications and Radio Engineering*, vol. 74, no. 8, pp. 735-744, 2015. **Q3** https://doi.org/10.1615/TelecomRadEng.v74.i8.70
10. T. L. Zinenko, V. V. Yachin, and M. Marciniak, "Brewster's angle polarizer design based on a gyrotropic double-periodic perforated layer," *Optical and Quantum Electronics*, vol. 46, no 6, pp. 779-790, 2014. **Q2** https://doi.org/10.1007/s11082-013-9788-8
11. V. V. Yachin, V. K. Kiseliov, Y. M. Kuleshov, P. K. Nesterov, and T. L. Zinenko, "Reflectometry of carbon fiber reinforced plastic (CFRP) in sub-terahertz frequency range: theory and experiment," *Telecommunications and Radio Engineering*, vol.73, no 11, pp. 94-100, 2014. **Q3** https://doi.org/10.1615/TelecomRadEng.v73.i11.60
12. V. V. Yachin, T. L. Zinenko, and V. K. Kiseliov, "Diffraction of a three-dimensional Gaussian beam with a circular symmetry on penetrable screens," *Telecommunications and Radio Engineering*, vol.71, no 8, pp. 677-691, 2012. **Q3** https://doi.org/10.1615/TelecomRadEng.v71.i8
13. V. V. Yachin, K. Watanabe, K., Yasumoto, "Method of integral functionals for electromagnetic wave scattering from three-dimensional gratings," In *Advanced Techniques for Microwave Systems, Part A: Transmission Lines and Periodic Structures*, Research Signpost Publ., pp. 85-102, 2011.