CURRICULUM VITAE GIRKA, Igor Oleksandrovych

1. GENERAL INFORMATION:

Date of birth: 29 April 1962

Degrees

2018.03.07: Corresponding member of National Academy of Sciences of Ukraine

2004: Doctor of Science in Physics and Mathematics (Plasma Physics) at V. N. Karazin Kharkiv National University "Propagation, conversion and absorption of global and surface electromagnetic waves in plasma with multi-dimensional inhomogeneity"

1991: Candidate of Science in Physics and Mathematics (Plasma Physics) at Kharkiv State University "Propagation and excitation of low-frequency electromagnetic waves in plasma waveguides"

1985: Master in Theoretical Nuclear Physics at Kharkiv State University "Excitation of fast magnetosonic waves in tokamaks of large dimensions"

2. CAREER

Employment (if the other is not noted, then all the employment being at School of Physics and Technology, V. N. Karazin Kharkiv National University, Ukraine)

2004:	Professor
1993:	Assistant Professor
1992:	scientific researcher
1989-1991:	postgraduate student
1986-1988:	junior member of teaching staff
1985:	junior scientific researcher

Professional Associations:

1991-til now	member, Ukrainian Physical Society
2015-till now	Vice-President, member of Coordinative Council of Ukrainian Physical Society

Professional Activities:

2020-till now	director of the educational and scientific institute "School of Physics and Technology"
2019-till now	member, Expert Council "Nuclear Physics, Radiophysics and Astronomy" of the Ukrainian Ministry of Education and Science
2018-till now	topical editor of Ukrainian Journal of Physics
2015-till now	managing editor, East European Journal of Physics
2012-2016	head of the Department of Applied Physics and Plasma Physics

2012-till now	member, Editorial Board of the journal "Problems of Atomic Science and Technology"
2012-2015	head of the Presidium of the Commission on Physics, Applied Physics and Astronomy within the Scientific and Methodological Council on Education in Ministry of Education and Science, Youth and Sports of Ukraine
2010-till now	official representative of V.N. Karazin Kharkiv National University at the European Nuclear Education Network Association
2009-2019	member, Expert Council “Material Science” of the Ukrainian Ministry of Education and Science
2006-till now	member, Scientific Council “Plasma Physics and Plasma Electronics” of the Division on Nuclear Physics and Energy of the Ukrainian National Academy of Sciences
2006-2012	director of Institute of High Technology, head of the Scientific Council of the Institute of High Technologies
2006-2012:	head of the department of General and Applied Physics
2005-2014	member, Editorial Board of the Journal of Kharkiv National University, *Physical Series* “Nuclei, Particles, Fields”
2005-2015	member, Scientific Council of the Institute of High Technologies
2005-2019	dean of the School
2002-till now	member, Scientific Council of the University
2002-2005:	deputy rector of the University
1997-1999:	head of the department of General and Applied Physics
1996-2002:	deputy head, Scientific Council of the School
1992-1996	member, Scientific Council of the School
1992-2002:	deputy dean of the School

3. **Refereed publications**

1. Girka V.A., Girka I.A., Kondratenko A.N., Tkachenko V.I. *Azimuthal Surface Waves of Magnetoactive Plasma Waveguides*// Soviet Journal of Communications Technology and Electronics (SJCTE). - 1988. - Vol. 33, No. 8. - p. 37-41.
2. Girka I.A., Stepanov K.N. *Eigen magnetosonic oscillations of inhomogeneous plasma cylinder*// Reports of Ukrainian Academy of Sciences. – 1988. – Series A, No. 7. – p. 61-65 (in Russian).
3. Girka V.A., Girka I.A., Kondratenko A.N., Tkachenko V.I. *Azimuthal Surface Waves at the boundary Between a Magnetoactive Plasma and a Metal*// SJCTE. - 1989. - Vol. 34, No. 4. - p. 96-99.
4. Girka V.A., Girka I.A., Kondratenko A.N., Tkachenko V.I. *Azimuthal Surface Modes of Isotropic Plasma Waveguides*// SJCTE. 1989. Vol. 34, No. 15. p. 103-105.
5. Girka I.A., Stepanov K.N. *Influence of azimuthal magnetic field on the spectra of magnetosonic oscillations of plasma cylinder*// Reports of Ukrainian Academy of sciences. – 1990. – Series A, No. 3. – p. 66-71 (in Russian).

6. Girka V.O., Girka I.O. *Influence of plasma inhomogeneity on the spectra of azimuthal surface waves*// Radiophysics and Quantum Electronics. – 1990. – Vol. 33, No. 4. – p. 516-517.
7. Girka I.O., Stepanov K.N. *Absorption and conversion of longwavelength fast magnetosonic waves in the region of local resonance in peripheral plasma*// Ukrainian Physical Journal. – 1990. – Vol. 35, No. 11. – p. 1680-1688 (in Russian).
8. Girka V.A., Girka I.A., Olefir V.P., Tkachenko V.I. *Generation of electromagnetic waves with an annular relativistic electron beam*// Soviet Technical Physics Letters. – 1991. - Vol. 17, No. 1. - p. 35-36.
9. Girka V.A., Girka I.A. *Azimuthal surface waves in a nonuniform plasma cylinder*// Radiophysics and Quantum Electronics. - 1991. - Vol. 34, No. 4. - p. 324-328. https://doi.org/10.1007/BF01080766
10. Girka I.O., Stepanov K.N. *Influence of plasma column's toroidicity and ellipticity on the spectra of MHD waves*// Ukrainian Physical Journal. – 1991. – Vol. 36, No. 7. – p. 1051-1058 (in Russian).
11. Girka V.O., Girka I.O. *Coupled azimuthal surface waves in a nonuniform current – carrying plasma cylinder*// SJCTE. - 1992. - Vol. 37, No. 4. - p. 23-29.
12. Girka I.O., Stepanov K.N. *MHD plasma oscillations in a bumpy magnetic field* // Ukrainian Physical Journal. – 1992. – Vol. 37, No. 1. – p. 69-75 (in Russian).
13. Girka V.O., Girka I.O. *Emission of azimuthal surface waves from narrow waveguide slot*// SJCTE. -1992. - Vol. 37, No. 9. - p. 32-35.
14. Girka I.O., Zolotukhin O.V. *Propagation of electromagnetic waves along the boundary of gyrotropic plasma and metal waveguide of arbitrary cross-section*// Ukrainian Physical Journal. – 1994. – Vol. 39, No. 6. – p. 682-687 (in Russian).
15. Girka I.O., Lapshin V.I., Stepanov K.N. *Plasma Heating near Satellite Alfven Resonances in Confinement Systems with a Ripple Magnetic Field*// Plasma Physics Reports. – 1994. - vol. 20, No. 11. - p. 916-922.
16. Girka I.O., Zolotukhin O.V. *Transversal surface magnetoplasma waves in metal waveguide of rectangular cross-section, filled with n-semiconductor*// SJCTE. - 1994. - Vol. 39, No. 12. - p. 1961-1968.
17. Girka V.A., Girka I.A., Tkachenko V.I. *Excitation of azimuthal surface modes in cylindrical semiconductor structures in the presence of drift motion of electrons' flow*// Soviet Technical Physics. – 1996. - Vol. 66, No. 4. - p. 114-120.
18. Girka V.O., Girka I.O., Kondratenko A.M., Pavlenko I.V. *Surface electron cyclotron waves in the metallic waveguide structures with two-component filling*// Contributions to Plasma Physics (CPP). – 1996. - Vol.36, No. 06. - p. 679 -686.
19. Girka I.A., Lapshin V.I., Stepanov K.N. *Plasma heating near satellite Alfven resonances in stelalrators*// Plasma Physics Reports. 1997. vol. 23, No. 1. p. 19-27.
20. Girka V.O., Girka I.O., Pavlenko I.V. *HF surface cyclotron waves in planar*

waveguides with nonuniform plasma filling// Journal of Plasma Physics. – 1997. - Vol. 58, Part 1. - p. 31-39.

21. Girka I.O. *Multipeak structure of the spectra of azimuthal surface waves in isotropic plasma waveguides with noncircular transverse cross sections*// Plasma Physics Reports. - 1997. - vol. 23, No. 3. - p. 246-251.
22. Girka V.O., Girka I.O. *Slowing down the transversal surface waves in isotropic plasma waveguides with noncircular cross section*// Technical Physics. – 1997. - Vol. 67, No. 7. - p. 92-97.
23. Girka V.O., Girka I.O., Pavlenko I.V. *Surface waves propagating in the direction transverse to the axis of magnetized plasma – filled waveguides with noncircular transverse cross sections*// Plasma Physics Reports. 1997. vol. 23, No. 11. p. 959-963.
24. Girka I.A., Lapshin V.I., Stepanov K.N. *Splitting of the Spectra of MHD Plasma Oscillations in a Rippled Magnetic Field* // Plasma Physics Reports. - 1998. - vol. 24, No. 11. - p. 948-955.
25. Girka I.O., Kovtun P.K. *Azimuthal surface waves in a magnetized plasma*// Technical Physics. - 1998. - Vol.43, No. 12. - p. 1424-1427. https://doi.org/10.1134/1.1259217
26. Girka I.O., Lapshin V.I. *Turbulent plasma heating in satellite Alfven resonances in devices with bumpy magnetic field*// Progress in Astronautics & Aeronautics. - 1998. - Vol. 182, # 63. - P.887-897.
27. Girka I.O., Kasilov S.V., Lapshin V.I., Stepanov K.N. *Enhancement of RF power absorption within the local Alfven resonance when the density profile differs from the linear one (maximum or inflection point)*// Problems of Atomic Science and Technology. - Series: Plasma Physics. – No. 1,2. - NSC "Kharkov Institute of Physics & Technology". - p.148-150.
28. Girka I.O., Kovtun P.K. *Effect of the helical nonuniformity of the confining magnetic field on the MHD eigenmodes in straight stellarators*// Plasma Physics Reports. – 2000. - vol. 26, No. 1. - p. 33-40.
29. Girka I.A. *Splitting of the spectra of MHD waves and the structure of a satellite Alfven resonance in a cold plasma in a strong axial magnetic field and weak helical field*// Plasma Physics Reports. – 2000. - Vol. 26, No. 9. - p. 772-780.
30. Girka I.O., D'yakov V.Ye., Yegorenkov V.D., Stepanov K.N. *Magnetohydrodynamic wave spectra in large tokamaks with noncircular cross section of magnetic surfaces*// Problems of Atomic Science and Technology. NSC «Kharkov Institute of Physics & Technology». - 2000. - No.6. Series: Plasma Physics. - p. 60-61.
31. Girka I.O. *Resonant influence of bumpy steady magnetic field ripples on the structure of the local Alfven resonance* // CPP. – 2001. - Vol.41, No.1. - p. 33-44.
32. Girka I.O., Rutkevich P.P. *Small scale Alfven waves in the region of maximum (minimum) at the density radial profile between two local Alfven resonances*// The

Journal of Kharkiv National University. No.529. Physical Series “Nuclei, Particles, Fields”. Issue 3 (15). 2001. Pp.43-46.

33. Girka V.O., Girka I.O., Pavlenko I.V. *Electrodynamic model of the Gas Discharge sustained by Azimuthal Surface Waves*// CPP, 2001, Vol. 41, No. 4, pp.393-406. https://doi.org/10.1002/1521-3986(200107)41:4%3C393::AID-CTPP393%3E3.0.CO;2-B
12th Joint Workshop on Electron Cyclotron Emission and Electron Cyclotron Resonance Heating, Aix-en- Provence, France, May 13-16, 2002, Proceedings, EC 12, p. 83-87.
34. Girka I.O. *Transverse Magnetoplasma Surface Waves in a Rectangular Metal Waveguide Filled with Two Layers of n-Type of Semiconductors* // Journal of Communications Technology and Electronics, 2001, Vol. 46, No. 12, pp. 1366-1373.
35. Girka V.O., Girka I.O. *Effect of Toroidal Magnetic Field Variations on the Spectra of Azimuthal Surface Waves in Metal Waveguides Entirely Filled with Plasma* // Plasma Physics Reports (PPR), Vol. 28, No. 3, 2002, pp. 190-195.
36. Girka I.A. *Azimuthal Surface Waves at the Plasma-Metal Boundary in a Nonuniform Toroidal Magnetic Field* // Technical Physics, Vol. 47, No. 7, 2002, pp. 845-850.
37. Girka V.A., Girka I.A. *Asymmetric Long-Wavelength Surface Modes of Isotropic Plasma Waveguides* // PPR, Vol. 28, No. 8, 2002, pp. 682-689. https://doi.org/10.1134/1.1501325
38. Girka I.O. *Fine structure of the local Alfven resonances in cold plasma placed in bumpy magnetic field*// CPP. – 2002. - Vol. 42, No. 5. – p. 476-497.
39. Girka V.O., Girka I.O. *Asymmetric Long-Wavelength Surface Modes in Magnetized Plasma Waveguides Entirely Filled with Plasma* // Plasma Physics Reports, Vol. 28, No. 11, 2002, pp. 916-924. https://doi.org/10.1134/1.1520285
40. Girka I.O., Lapshin V.I. *Helicity resonant influence on the local Alfven resonance structure in straight stellarators*// Journal of Plasma Physics. – 2002. – Vol. 68, part 4. – p. 257 - 265.
41. Girka I.O., Lapshin V.I., Schneider R. *Resonant influence of helicity on Alfven heating of plasma in stellarators*// Plasma Physics and Controlled Fusion. – 2003. – Vol. 45. – p. 121–132.
42. Belyaev N.R., Girka I.O., Gritsyna V.T. *Effect of the Periodic Ripple in an Axial Confining Magnetic Field on the Alfven Heating of a Cylindrical Plasma* // Plasma Physics Reports, 2003, vol. 29, No. 5, p. 399-406.
43. Girka I.O., Rutkevich P.P. *Small-Scale Alfven Waves Localized near an Extremum in the Finite-Amplitude Perturbation of the Radial Plasma Density Profile* // Plasma Physics Reports, 2003, vol. 29, No. 6, p. 466-472.
44. Girka V.O., Girka I.O., Pavlenko I.V. *Nonlinear theory of annular electron beam*

and eigen flute modes interaction nearby electron cyclotron frequency// Electron Cyclotron Emission and Electron Cyclotron Resonance Heating. Proc. of 13th Joint Workshop. Nizhny Novgorod, Russia. 17-20 May 2004. Editor A. Litvak. EC-13. Nizhny Novgorod. 2005. Pp. 114-118.

45. Girka I.O. *The reversed effect of the electromagnetic wave spatial multimodality on Alfven wave heating in helical magnetic field*// Physica Scripta. 2006, vol. 73, issue 5, p. 490-498.
46. Girka I.O., Girka O.I., Girka V.O., Pavlenko I.V. *Coupled HF azimuthal waves in magnetoactive waveguide partially filled by current-carrying plasma*// Problems of Atomic Science and Technology, NSC "Kharkov Institute of Physics & Technology", 2006, No. 5, Series: Plasma Electronics and New Methods of Acceleration, (5), p.28-33.
47. Girka V.O., Girka I.O. *Surface flute modes in a bumpy magnetic field*// Plasma Physics Reports, 2006, vol. 32, No. 9, p. 750-758.
48. Girka V.O., Girka I.O. *Additional ECR Heating of a Radially Inhomogeneous Plasma via the Absorption of a Satellite Harmonics of the Surface Flute Modes in a Rippled Magnetic Field* // Plasma Physics Reports, 2006, vol. 32, No. 12, p. 1047- 1051.
49. Girka O.I., Girka V.O., I.V. Pavlenko, Girka I.O. *Effect of the Shape of the Cross Section of a Plasma-Dielectric Interface on the Dispersion Properties of Azimuthal Surface Modes* // Plasma Physics Reports, 2007, vol. 33, No. 2, p. 91-101. https://doi.org/10.1134/S1063780X0702002X
50. Girka O.I., Girka V.O., I.V. Pavlenko, Girka I.O. *Resonant Effect of the Noncircular Shape of the Plasma Surface on the Dispersion Properties of Extraordinary Azimuthal Surface Modes in Magnetoactive Waveguides* // Plasma Physics Reports, 2007, vol. 33, No. 7, p. 543-552.
51. *Impurity transport and electromagnetic waves in the plasma periphery of a HELIAS reactor configuration and WENDELSTEIN 7-X*. Збірка наукових праць під ред. І.О. Гірки, О.О. Шишкіна. Харків, 2007, 226 с. ISBN 966-623-435-1.
52. Girka A.I., Girka V.A., Girka I.A., I.V. Pavlenko *Propagation of azimuthal waves along the surface of a metal current-carrying cylinder immersed into a magnetized plasma//* Radiophysics and Quantum Electronics. 2008. Vol. 51, No. 2, p. 110-122.
53. Kazakov Ye.O., Pavlenko I.V., Weyssow B., Girka I.O. *Enhanced mode conversion in fusion discharges with large concentration of the minority ions//* Ukrainian Physical Journal. 2008. Vol. 53, No. 5, p. 443-450.
54. Girka A.I., Girka V.A., Girka I.A., I.V. Pavlenko *Propagation of Azimuthal Waves in Magnetoactive Waveguides Filled with a Current-Carrying Plasma//* Technical Physics. 2008, Vol. 53, No. 7, pp. 905-912.
55. Kazakov Ye.O., Pavlenko I.V., Weyssow B., Girka I.O. *Fast Alfven wave propagation in multicomponent nonuniform plasmas*// Problems of Atomic Science and

Technology, NSC "Kharkov Institute of Physics & Technology", 2008, No. 4, *Series*: Plasma Electronics and New Methods of Acceleration, (6), p. 99-103.

56. Girka O.I., Girka V.O., Girka I.O., Pavlenko I.V. *Coupled Transverse Modes of Coaxial Metal Waveguides Completely Filled with Magnetoactive Current-Carrying Plasma//* Plasma Physics Reports, 2008, vol. 34, No. 11, p. 901-910. https://doi.org/10.1134/S1063780X08110032
57. Kazakov Ye.O., Pavlenko I.V., Weyssow B., Girka I.O. *Fast wave mode conversion in multicomponent nonuniform plasmas*// Problems of Atomic Science and Technology. 2008. № 6. *Series:* Plasma Physics (14), p. 49-51.
58. Girka O.I., Girka V.O., I.V. Pavlenko, Girka I.O. *Azimuthal Surface Waves in Toroidal Magnetic Traps //* Problems of Atomic Science and Technology. 2008. № 6. *Series:* Plasma Physics (14), p. 64-66.
59. Voitsenya T.I., Girka I.O. *Collection of problems in general physics: electricity and magnetism* // V.N. Karazin Kharkiv National University, 2009, 118 pp.
60. Girka V.O., Girka I.O. *Lectures on Physics course "Mechanics and Molecular Physics" for students of Natural Science Schools* (textbook)// V.N.Karazin Kharkiv National University, 2010. 296 pp.
61. Kazakov Ye.O., Pavlenko I.V., Girka I.O. *Propagation of the Fast Magnetosonic Wave through the Generalized Budden Barrier*// Problems of Atomic Science and Technology. 2010. № 4. *Series:* Plasma Electronics and New Methods of Acceleration (7), p. 90-93.
62. Kazakov Ye.O., Pavlenko I.V., Van Eester D., Weyssow B., Girka I.O. *Enhanced ICRF mode conversion efficiency in plasmas with two mode conversion layers*// Plasma Physics and Controlled Fusion, 2010, Vol. 52, No. 11, 115006, doi: 10.1088/0741-3335/52/11/115006.
63. Kazakov Ye.O., Van Eester D., Lerche E., Pavlenko I.V., Weyssow B., Girka I.O. and JET EFDA Contributors. *ICRF heating of hydrogen plasmas with two mode conversion layers//* Problems of Atomic Science and Technology, 2010, No. 6, Series: Plasma Physics (16), pp. 37-39.
64. Afanasyev V.D., Girka I.O. *Scattering of Relativistic Electrons by Nuclei* (textbook) // Kharkiv National University, 2011. - 240 pp.
65. Girka V.O., Girka I.O. *Theory of Azimuthal Surface Waves*: Monograph // V.N.Karazin Kharkiv National University, 2011. - 234 pp. (in Ukrainian)
66. Girka V.O., Girka I.O., Pavlenko I.V. *Excitation of azimuthal surface modes by relativistic flows of electrons in high-frequency range*// Plasma Physics Reports, 2011, vol. 37, No. 5, p. 447-454.
67. Girka V.O., Girka I.O., Girka A.V., Pavlenko I.V. *Theory of azimuthal surface waves propagating in nonuniform waveguides*// Journal of Plasma Physics, 2011, vol. 77, part 4, pp. 493–519. doi:10.1017/S0022377810000644

68. Girka V.O., Girka I.O., Morgal Ya.I., Pavlenko I.V. *Excitation of azimuthal surface modes by annular electron beams in the range of electron cyclotron frequency*// Physica Scripta, 2011, Vol. 84, 025505, 7pp.
69. Girka V.O., Girka I.O., Pavlenko I.V. *Excitation of ion azimuthal surface modes in a magnetized plasma by annular flow of light ions*// Progress In Electromagnetics Research M (PIERM), Vol. 21, p. 267-278, 2011. DOI: 10.2528/PIERM11092205
70. Girka V.O., Girka I.O., Pavlenko I.V. *Influence of the Shape of the Cross Section of a Plasma-Dielectric Interface on the Dispersion Properties of High Frequency Azimuthal Surface Modes*// Plasma Physics Reports, 2012, vol. 38, No. 2, p. 126-137.
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72. Girka V.O., Girka I.O., Pavlenko I.V., Girka O.I., Girka A.V. *Coupled Azimuthal Modes Propagating in Current-carrying Plasma Waveguides*// Journal of Plasma Physics, 2012, Vol. 78, part 2, pp. 105-123, doi: 10.1017/S0022377811000468
73. Girka V.O., Girka I.O., Pavlenko I.V. *Influence of the plasma column cross-section non-circularity on the excitation of the azimuthal surface waves in electron cyclotron frequency range by annular electron beam*// Progress In Electromagnetics Research M (PIERM), 2012, Vol. 26, pp. 39-53.
74. Pavlenko I.V., Girka I.O., Leviga B.I. *Effect of the minority ions on the ICRF heating of fusion plasmas*// Problems of Atomic Science and Technology, 2012, No. 6, Series: Plasma Physics (82), pp. 43-45.
75. Girka I.O. *Fine structure of the local Alfven resonance in periodically inhomogeneous plasmas of fusion traps*: Monograph // V.N.Karazin Kharkiv National University, 2012. – 179 pp.
76. Voytsenya T.I., Girka I.O. *Optics and electromagnetic waves: methodological advices to homework for students who study for BSc of Applied Physics*: collection of problems/ Kharkiv, V.N. Karazin Kharkiv National University, 2013. – 140 p.
77. Girka V.O., Girka I.O., Pavlenko I.V. *Excitation of High Frequency Azimuthal Surface Waves by Annular Electron Beam in a Waveguide with a Non-Circular Interface of a Plasma Column*// Plasma Physics Reports, 2013, Vol. 39, No. 5, pp. 399-405.
78. Shmatko Ye. S., Girka I.O., Kartashov V.M. Passage of radiation through matter (manual recommended by the Ministry of Education and Science)// V.N.Karazin Kharkiv National University, 2013. – 132 pp.
79. Voitsenya T.I., Girka I.O. *Optics and electromagnetic waves: methodical recommendations for homework for students studying Applied Physics* // V.N. Karazin Kharkiv National University, 2013, 140 pp.
80. Girka V., Girka I., Thumm M. *Surface flute waves in plasmas. Theory and applications*: Monograph // Springer, 171 p., 2014. Series: Springer Series on Atomic,

Optical, and Plasma Physics, Vol. 79. 2014, VIII, 163 p. https://www.springer.com/us/book/9783319020266

81. Girka V.O., Girka I.O., Kostenko A.V., Pavlenko I.V. *Excitation of Azimuthal Surface Waves in Toroidal Waveguide by Rotating Electron Beam at the Range of Electron Cyclotron Resonance*// Progress In Electromagnetics Research B (PIERB), 2014, Vol. 57, pp. 267-277.
82. Blednov O.S., Girka V.O., Girka I.O., Pavlenko I.V. *Excitation of the azimuthal surface waves in electron cyclotron frequency range by rotating electron beam in a coaxial waveguide*// IEEE Transactions on Plasma Science, 2014, Vol. 42, Issue 3, Part: 2, pp. 735-741. DOI: 10.1109/TPS.2014.2300097
83. Girka V. O., Girka I. O., Sydora R. D. *Azimuthally non-symmetric surface waves propagating in metal waveguides filled with isotropic plasma*// Progress In Electromagnetics Research B, 2014, Vol. 61, pp. 87-98.
84. Misyura I. M., Girka I. O., Gritsyna V. T., Kazarinov Yu. G. *Changes in the composition and optical properties of Cu and Cu2O nanofilms deposited on SiO2 substrates after annealing and bombardment by argon and hydrogen ions*// Journal of Surface Investigation. X-ray, Synchrotron and Neutron Techniques, 2014, Vol. 8, Issue 6, pp. 1339-1344.
85. Blednov O., Girka I., Girka V., Pavlenko I., Sydora R. *Excitation of the surface flute waves in electron cyclotron frequency range by internal rotating electron beam in a coaxial waveguide*// Physica Scripta, 2014, Vol. 89, No. 12, 125605 (6pp). doi.org/10.1088/0031-8949/89/12/125605
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87. Misiura I.N., Girka I.A., Azarenkov N.A., Borgun Ie.V., Hrechko Ya.O., Hryhorenko A.V., Dimitrova V.D., Ryabchikov D.I., Sereda I.N., Tseluyko A.F. *Features of electron beam evaporation under surface electron beam formation*// Problems of Atomic Science and Technology, 2014, No. 6, Series: Plasma Physics (20), pp. 149-152.
88. Фізичний практикум з механіки та молекулярної фізики / В. О. Гірка, І. О. Гірка, Р. І. Старовойтов – Х. : ХНУ імені В. Н. Каразіна, 2014. - 227 с.
89. Antufyev O., Pavlenko I., Girka I. *Drift resonance and particle removal from helical plasma*// Problems of Atomic Science and Technology, 2015, No. 1, Series: Plasma Physics (21), pp. 12-15.
90. Bizyukov A.A., Girka I.A., Romashchenko E.V., Chibisov A.D. *Charging of macroparticles in a high-voltage, vacuum arc sheath*// Problems of Atomic Science and Technology, 2015, No. 1, Series: Plasma Physics (21), pp. 246-248.
91. Girka V., Girka I., Sydora R., Ivahnenko O., Shkoda Ye. *Parametric excitation of azimuthally non-symmetric surface waves propagating in metal waveguides filled with isotropic plasma*// Physica Scripta, 2015, Vol. 90, No. 6, 065605 (7pp). https://doi.org/10.1088/0031-8949/90/6/065605
92. Rudychev V.G., Rudychev Y.V., Kaplij A.A., Shchus O.P., Sokoltsova T.O., Girka I.O. *Change of radioactive waste characteristics at their processing and stor-*

age at nuclear power plants// Problems of Atomic Science and Technology, 2015, No. 3 (97), Series: Nuclear Physics Investigations (64), pp. 83-88.

93. Rudychev V.G., Azarenkov N.A., Girka I.A., Rudychev E.V. *Irradiation dose minimization by optimizing the arrangement of radiation sources of different intensity*// Atomic Energy, 2016, Vol. 119, No. 4, p.p. 285-290.
94. Girka I., Girka V., Sydora R., Thumm M. *Instability of surface electron cyclotron TM-modes influenced by non-monochromatic alternating electric field*// Physics of Plasmas, 2016, Vol. 23, 062106 (9 pages). https://doi.org/10.1063/1.4953421
95. Bizyukov A. A., Girka I. O., Romashchenko E. V. *Transport of a Macroparticle in Vacuum Arc Sheath*// IEEE Transactions on Plasma Science, 2016, Vol. 44, Issue 7, p.p. 1050-1055. https://ieeexplore.ieee.org/document/7486120
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4. International research activities biographical note:

2021 (September-November): DAAD fellow # 57552334 for collaboration with Karlsruhe Institute of Technologies, Germany.

2021-2022: Manager of the project “Comparative analysis of radiation-induced processes in complex oxide crystals and ceramics for their application in fusion devices” in the framework of Ukrainian-Latvian Joint Programme of Scientific and Technological Cooperation.

2020 (October): Member of EUROfusion Enabling Research Selection Panel, online.

2019 (August 8-10): International Workshop on US-Ukraine Cooperation on Education in Advanced Nuclear Science and Engineering, Washington, DC, USA.

2018 (September-December): DAAD fellow # 91692295 for collaboration with Karlsruhe Institute of Technologies, Germany.

2018 (October): Member of EUROfusion Enabling Research Selection Panel, MPIPP, Garching, Germany.

2018 (January-March): Manager of STCU Partner Project # P712 “Depositing the tungsten coating on graphite tiles of ASDEX-Upgrade ICRF limiters”.

2017 (November 28 – 30): Participant in SCIP (Studsvik Cladding Integrity Project), Studsvik, Sweden.

2017 (January 30 – February 03): Participant in IAEA national workshop “Developing Educational Programme in Nuclear Security in Ukraine”, Kyiv, Ukraine (under umbrella of INSEN).

2014 (May 5-9): Participant in IAEA scientific visit C6/UKR/12027V, Karolinska Institutet/Stockholm University, Stockholm, Sweden.

2013 (November): Participant in the activities of the "Ukrainian Mission to Canada to Create Partnerships in Higher Education" at the invitation of the Canadian Bureau of International Education (CBIE), Canada.

2013 (August): Participant in Joint IAEA-ICTP (International Center for Theoretical Physics) School of Nuclear Knowledge Management.

2011 (November): Expert in IAEA Coordination Meeting “Radiation Engineered Nanostructures” in the framework of regional programme RER/8/014 – Supporting Radiation Synthesis and the Characterization of Nanomaterials for Health Care, Environmental Protection and Clean Energy applications.

2010 (September): Expert in IAEA TM-38671 “Training and Educational Systems for Nuclear Industry” in the framework of the Project # C3-UKR/0/010 9010 01

2010 (January): Expert in IAEA Assist Mission on Guidance for Knowledge Management at Technical Universities in the framework of the Project # C3 Cl-UKR/0/010 9006 01

2009 (December): Expert in IAEA TM on the Development of Curricula in Nuclear Science and Technology in the framework of the Project # C3-UKR/0/010 9004 01

2006-2009: Manager of STCU regular Project # 3685 “Impurity transport in 3D magnetic field for the stellarator Wendelstein 7-X and tokamaks”.

2002-2005: Manager of STCU regular Project # 2313 “Impurity transport and electromagnetic waves in the plasma periphery of a HELIAS reactor configuration and WENDELSTEIN 7-X”.

2000-2001: Manager of Partner Project of Science and Technology Center in Ukraine (STCU) # P054 “Impurity transport in stellarators. Development of methods for depositing the coatings on ICRF antennas”.

1997-1999: Manager of German-Ukrainian Project # WTZ UKR – 010 – 97 “Semi – analytical solutions to Fokker-Planck quasilinier equation”.

1996 (October): guest researcher at Max-Planck-Institut fuer Plasmaphysik, Garching, Federal Republic Germany.

1996: Researcher in IAEA Research Project № 8931/RO “Global Magnetohydrodynamic MHD Modes in Nonuniform Plasma of Fusion Traps”.

1994-1996 Researcher in STCU regular Project # 235 “Research into Mechanisms of Plasma Heating with Electromagnetic Fields and into Phenomena of Plasma Chemistry”.

5. **Scholarships, grants and awards**:

2020 gratitude of Ministry of Education and Science, National Academy of Sciences of Ukraine, and National Center “Junior Academy of Sciences” for high level of professionalism and significant personal contribution to the organization and successful holding of the All-Ukrainian Autumn School «STEM MAS.UA»

2020: honorary title "Honored Person of Science and Technology of Ukraine" was awarded for significant personal contribution to the development of national education and science, training of highly qualified specialists, many years conscientious work by Presidential Decree No.22 / 2020 on January 25, 2020.

2019: commendation of Executive Committee of the Kupyansk City Council of Kharkiv region for a high level of professionalism, popularization of scientific achievements, development of partnership with Kupyansk gymnasium № 1

2019: diploma and a medal “People’s recognition for Ukrainian scientists. 1918-2018” in the framework of the Project of the general Directorate of IARTAS “Golden Fortune”

2018: commendation of Zhytomyr Regional State Administration for the endorsement of the gifted youth, assistance in organizing and preparing a team to the final stage of XXVII All-Ukrainian Young Physicists Tournament

2018: winner of Kharkiv regional 20th Competition among the Professors of all the Universities “Best names of Kharkiv Universities” in the nomination “Deans”

2018: commemorative award in honor of the 100th anniversary of the National Academy of Sciences of Ukraine

2017: commendation of Executive Committee of the Kupyansk City Council of Kharkiv region for a significant personal contribution to the development of the institution for capable and gifted children - Kupyansk gymnasium No. 1, development of national education, long-term fruitful cooperation, popularization of scientific knowledge and endorsement for talented youth of Kupyansk

2017: commendation of Presidium of National Academy of Sciences of Ukraine for active work in sphere of creative integration of higher education and science, significant personal contribution to arrangement of the educational and research process, training of scientific personnel

2016: certificate from OPTICS COMMUNICATIONS, ELSEVIER, in recognition of the review made for the journal

2014: commendation of Kharkiv Regional State Administration for the organizational support to activities for gifted youth

2012: commendation of Kharkiv City Mayor for diligent and fruitful work, contribution to the development of education and science, training highly qualified specialists

2011: commendation of Odessa Regional State Administration for the active endorsement to tournament movement of physicists in Ukraine and activity to preserve the advanced position of Physics among other sciences

2010: commendation of Chernigiv Regional State Administration for the contribution to development of artificers' movement among schoolchildren's youth

2010: commendation of Zakarpattya Regional State Administration for the contribution to development of tournament movement among schoolchildren's youth in Ukraine

2010: winner of Kharkiv regional 12th Competition among the Professors of all the Universities "Best names of Kharkiv Universities" in the nomination "Deans"

2010: prize of National Academy of Sciences of Ukraine named after K.D. Synelnykov for the set of papers "Interaction of radiation and particles' flows with materials in energy installations" (in a team)

2010: certificate of honor of National Academy of Sciences of Ukraine and the Central committee of a trade union of workers of the National Academy of Sciences of Ukraine for long-term fruitful scientific and pedagogical activity, powerful merits in preparation of highly skilled experts, strengthening of creative integration of the higher school and the science and in connection with the 205-th anniversary from the date of the foundation of the University

2009: badge of Ukrainian Ministry of Education and Science "For scientific achievements".

2008: certificate of honor of the Kharkov city council for the powerful contribution to development of tournament movement among schoolchildren's youth of city of Kharkov, steady care of rise of creative potential of the gifted children and popularization of sciences among schoolchildren.

2007: academic status of Professor in General and Applied Physics.

2007: diploma (gratitude) of the University's rector for efficient contribution to preparing the students to All-Ukrainian students' academic tournaments.

2006: diploma of Kharkiv Regional State Administration for high professionalism, essential contribution to treasure house of culture and raising of national consciousness.

2006: participant of the British Council International Seminar "Scientific Literacy: its Implications for Schools".

2004: badge of Ukrainian Ministry of Education and Science "Honored person of Ukrainian education".

2003: diploma (gratitude) of Kharkiv city's mayor for essential contribution to the realisation of state youth policy.

2002: academic status of Assistant Professor in General and Applied Physics

1999: participant of the International Visitor Program of the United States

Information Agency “Technology in education”.
1995: academic status of Senior Scientific Researcher in Plasma Physics
1993: individual Soros grant
1989-1991: scholarship named after Lenin for excellent studies at the postgraduate courses of the University
1985: master’s diploma with honor
1983: diploma of Ukrainian Young Communist League’s Central Committee for successful mastering the specialty
1983-1985: scholarship named after Lenin for excellent studies at the University
1979: gold medal for graduating from school with honor