Nikolai V Gavrilov

List of Publications by Year
in descending order

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111	1,316	394286	501076
papers	citations	19 h-index	28 g-index

111	111	111	1245
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Synthesis of Lithium Phosphorus Oxynitride (LiPON) Thin Films by Li3PO4 Anodic Evaporation in Nitrogen Plasma of a Low-Pressure Arc Discharge. Membranes, 2022, 12, 40.	1.4	6
2	Application of the catalytic probe method for measuring the concentration of oxygen atoms in Ar/O₂ plasma of a low-pressure arc. Plasma Sources Science and Technology, 2021, 30, 015004.	1.3	9
3	Ion-beam induced quasi-dynamic continual disorder in Bi-implanted Hongan silica glass. Journal of Non-Crystalline Solids, 2021, 563, 120818.	1.5	8
4	Increasing the oxygen dissociation degree in the plasma of a pulse-periodic Ar/O2 low-pressure arc. Plasma Sources Science and Technology, 2021, 30, 095008.	1.3	6
5	The high refractive index of Gd2O3 thin films obtained by magnetron sputtering. Optical Materials, 2021, 120, 111382.	1.7	7
6	Effect of rapid thermal annealing on damage of silicon matrix implanted by low-energy rhenium ions. Journal of Alloys and Compounds, 2020, 846, 156433.	2.8	0
7	Deposition of Gd2O3 by Reactive Anodic Evaporation in Arc with Self-heated Hollow Cathode. , 2020, , .		1
8	Bi-doped silica glass: A combined XPS â€“ DFT study of electronic structure and pleomorphic imperfections. Journal of Alloys and Compounds, 2020, 829, 154459.	2.8	23
9	Ion-beam synthesis of copper nanoparticles in transparent ceramics of aluminum-magnesium spinel. Vacuum, 2020, 175, 109243.	1.6	5
10	Structural and electron-optical properties of transparent nanocrystalline MgAl2O4 spinel implanted with copper ions. Journal of Alloys and Compounds, 2020, 834, 154993.	2.8	9
11	Quasi-Dynamic Approach in Structural Disorder Analysis: An Ion-Beam-Irradiated Silica. Journal of Physical Chemistry C, 2019, 123, 29324-29330.	1.5	5
12	Induced Quasi-Dynamic Disorder in a Structure of Rhenium Ion-Implanted Quartz Glass. Physics of the Solid State, 2019, 61, 1017-1022.	0.2	6
13	Local atomic configurations, energy structure, and optical properties of implantation defects in Gd-doped silica glass: An XPS, PL, and DFT study. Journal of Alloys and Compounds, 2019, 796, 77-85.	2.8	10
14	Al2O3 thin films deposition by reactive evaporation of Al in anodic arc with high levels of metal ionization. Surface and Coatings Technology, 2019, 359, 117-124.	2.2	10
15	Electronic Structure and Optical Absorption in Gdâ€Implanted Silica Glasses. Physica Status Solidi (A) Applications and Materials Science, 2019, 216, 1800522.	0.8	10
16	Ion assisted deposition of Î±-Al2O3 coatings by anodic evaporation in the arc discharge. Surface and Coatings Technology, 2018, 337, 453-460.	2.2	30
17	Mixed Substitution in Pâ€Doped Anatase TiO₂ Probed by XPS and DFT. Physica Status Solidi (B): Basic Research, 2018, 255, 1700477.	0.7	7
18	Structure of the Surface Layers of Metastable Austenitic Stainless Steel Nitrided in Electron Beam Plasma. Physics of Metals and Metallography, 2018, 119, 755-763.	0.3	10

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19	Interfacial reactions in Al2O3/Cr2O3 layers: Electronic structure calculations and X-ray photoelectron spectra. Thin Solid Films, 2018, 665, 6-8.	0.8	10
20	Evidence of random distribution of carbon impurities in oxygen sites of zinc oxide. Physica B: Condensed Matter, 2018, 545, 172-175.	1.3	0
21	XPS-and-DFT analyses of the Pb 4f â€" Zn 3s and Pb 5d â€" O 2s overlapped ambiguity contributions to the final electronic structure of bulk and thin-film Pb-modulated zincite. Applied Surface Science, 2017, 405, 129-136.	3.1	30
22	Soft electronic structure modulation of surface (thin-film) and bulk (ceramics) morphologies of TiO 2 -host by Pb-implantation: XPS-and-DFT characterization. Applied Surface Science, 2017, 400, 110-117.	3.1	28
23	A self-heated hollow cathode made of compacted TiN powder: the preparation method and test results. Instruments and Experimental Techniques, 2017, 60, 742-747.	0.1	9
24	The MRO-accompanied modes of Re-implantation into SiO2-host matrix: XPS and DFT based scenarios. Journal of Alloys and Compounds, 2017, 728, 759-766.	2.8	28
25	Enhanced clustering tendency of Cu-impurities with a number of oxygen vacancies in heavy carbon-loaded TiO2 - the bulk and surface morphologies. Solid State Sciences, 2017, 71, 130-138.	1.5	5
26	Thermal regime of self-heated hollow cathode in a low-pressure high-current pulsed-periodic discharge. Technical Physics, 2017, 62, 1750-1754.	0.2	3
27	Nanocrystalline Î±-Al2O3 coatings obtained by reactive thermal anodic evaporation in arc discharge at low temperature. Technical Physics Letters, 2017, 43, 951-954.	0.2	6
28	Nitriding of Stainless Steel in Electron-Beam Plasma in the Pulsed and DC Generation Modes. Journal of Surface Investigation, 2017, 11, 1167-1172.	0.1	4
29	Effect of a continuous and gas-cyclic plasma nitriding on the quality of nanostructured austenitic stainless steel. Metal Working and Material Science, 2017, , 55-66.	0.0	5
30	Nitriding of stainless steel in plasma of a pulse electron beam. Technical Physics Letters, 2016, 42, 491-494.	0.2	8
31	Pleomorphic structural imperfections caused by pulsed Bi-implantation in the bulk and thin-film morphologies of TiO2. Applied Surface Science, 2016, 379, 223-229.	3.1	13
32	XPS and DFT study of pulsed Bi-implantation of bulk and thin-films of ZnOâ€"The role of oxygen imperfections. Applied Surface Science, 2016, 387, 1093-1099.	3.1	41
33	Generation of a pulsed high-current low-energy beam in a plasma electron source with a self-heated cathode. Technical Physics, 2016, 61, 669-675.	0.2	15
34	Ionâ€beam synthesis and thermal behaviour of luminescent Zn₂SiO₄ nanoparticles in silica glasses and films. Physica Status Solidi (B): Basic Research, 2016, 253, 2180-2184.	0.7	2
35	Electronic structure and photoluminescence properties of Zn-ion implanted silica glass before and after thermal annealing. Journal of Non-Crystalline Solids, 2016, 432, 183-188.	1.5	20
36	Sn-loss effect in a Sn-implanted a-SiO2 host-matrix after thermal annealing: A combined XPS, PL, and DFT study. Applied Surface Science, 2016, 367, 320-326.	3.1	35

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37	Magnetron sputtering system for coatings deposition with activation of working gas mixture by low-energy high-current electron beam. Journal of Physics: Conference Series, 2015, 652, 012024.	0.3	5
38	Octahedral conversion of a-SiO₂ host matrix by pulsed ion implantation. Physica Status Solidi (B): Basic Research, 2015, 252, 2185-2190.	0.7	19
39	XPS and DFT study of Sn incorporation into ZnO and TiO₂host matrices by pulsed ion implantation. Physica Status Solidi (B): Basic Research, 2015, 252, 1890-1896.	0.7	28
40	Willemite photoluminescence in Zn-implanted silica glasses. Physica Status Solidi C: Current Topics in Solid State Physics, 2015, 12, 1355-1358.	0.8	4
41	Modification of titanium and titanium dioxide surfaces by ion implantation: Combined XPS and DFT study. Physica Status Solidi (B): Basic Research, 2015, 252, 748-754.	0.7	20
42	Structural defects and electronic structure of N-ion implanted TiO 2 : Bulk versus thin film. Applied Surface Science, 2015, 355, 984-988.	3.1	13
43	Characterization of TiAlSiON coatings deposited by plasma enhanced magnetron sputtering: XRD, XPS, and DFT studies. Surface and Coatings Technology, 2015, 278, 87-91.	2.2	11
44	Structural defects induced by Fe-ion implantation in TiO2. Journal of Applied Physics, 2014, 115, .	1.1	9
45	Electronic band gap reduction and intense luminescence in Co and Mn ion-implanted SiO2. Journal of Applied Physics, 2014, 115, .	1.1	16
46	Study of the Structural Characteristics of 3d Metals Cr, Mn, Fe, Co, Ni, and Cu Implanted in ZnO and TiO₂â€"Experiment and Theory. Journal of Physical Chemistry C, 2014, 118, 28143-28151.	1.5	26
47	On the formation of nanocomposite TiC/a-C:H coatings by the method of the magnetron sputtering of Ti in an electron-beam activated Ar/C2H2 mixture. Journal of Surface Investigation, 2014, 8, 846-852.	0.1	4
48	Nanocomposite vacuum-Arc TiC/a-C:H coatings prepared using an additional ionization of acetylene. Physics of Metals and Metallography, 2014, 115, 723-729.	0.3	6
49	Photoluminescence of implantation-induced defects in SiO2:Pb+ glasses. Journal of Surface Investigation, 2014, 8, 540-544.	0.1	4
50	Local Structure of Fe Impurity Atoms in ZnO: Bulk versus Surface. Journal of Physical Chemistry C, 2014, 118, 5336-5345.	1.5	15
51	Potential of an insulated electrode in a high-energy electron flow under a gas pressure of 0.1â€"1.0 Pa. Technical Physics, 2013, 58, 70-75.	0.2	3
52	Self-oscillating mode of electron beam generation in a source with a grid plasma emitter. Technical Physics, 2013, 58, 1426-1431.	0.2	6
53	The formation of Tiâ€"O tetrahedra and band gap reduction in SiO2 via pulsed ion implantation. Journal of Applied Physics, 2013, 113, 103704.	1.1	12
54	The Domain Kinetics in Congruent Lithium Niobate Modified by Low and High Energy Ion Irradiation. Ferroelectrics, 2012, 441, 17-24.	0.3	1

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55	Formation of nanodomain structures during polarization reversal in congruent lithium niobate implanted with ar ions. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2012, 59, 1934-1941.	1.7	10
56	Formation of Mn-oxide clusters in Mn+-implanted SiO2 probed by soft X-ray emission and absorption spectroscopy. Vacuum, 2012, 86, 1615-1617.	1.6	1
57	Low-temperature photoluminescence of ion-implanted SiO2:Sn+ films and glasses. Journal of Surface Investigation, 2012, 6, 668-672.	0.1	14
58	Experimental study of the transition to high-current regime of discharge with a hollow self-heated titanium cathode in nitrogen. Technical Physics Letters, 2012, 38, 1031-1033.	0.2	6
59	Interplay of ballistic and chemical effects in the formation of structural defects for Sn and Pb implanted silica. Journal of Non-Crystalline Solids, 2012, 358, 3187-3192.	1.5	4
60	Structural ordering in a silica glass matrix under Mn ion implantation. Journal of Physics Condensed Matter, 2012, 24, 185402.	0.7	3
61	Effect of the electron beam and ion flux parameters on the rate of plasma nitriding of an austenitic stainless steel. Technical Physics, 2012, 57, 399-404.	0.2	32
62	Pb+ implanted SiO2 probed by soft x-ray emission and absorption spectroscopy. Journal of Non-Crystalline Solids, 2011, 357, 3381-3384.	1.5	6
63	A source of broad electron beams with a self-heated hollow cathode for plasma nitriding of stainless steel. Instruments and Experimental Techniques, 2011, 54, 732-739.	0.1	21
64	Investigations of Mnâ€“Coâ€“O and Mnâ€“Coâ€“Yâ€“O coatings deposited by the magnetron sputtering on ferritic stainless steels. Surface and Coatings Technology, 2011, 206, 1252-1258.	2.2	57
65	Radiation annealing of AMg6, 1441, and VD1 aluminum alloy strips using a ribbon source of accelerated ions. Russian Metallurgy (Metally), 2010, 2010, 207-213.	0.1	13
66	Comparison testing of diamond-like a-C:H coatings prepared in plasma cathode-based gas discharge and ta-C coatings deposited by vacuum arc. Surface and Coatings Technology, 2010, 204, 4018-4024.	2.2	19
67	Abnormal Domain Evolution in Lithium Niobate with Surface Layer Modified by Cu Ion Implantation. Ferroelectrics, 2010, 399, 49-57.	0.3	11
68	Formation of Self-Assembled Domain Structures in Lithium Niobate Modified by Ar Ions Implantation. Ferroelectrics, 2010, 399, 35-42.	0.3	11
69	Diamond-like a-C:H coatings deposited in a non-self-sustained discharge with plasma cathode. Technical Physics Letters, 2009, 35, 33-35.	0.2	8
70	Low-temperature nitriding of titanium in low-energy electron beam excited plasma. Technical Physics Letters, 2009, 35, 713-716.	0.2	17
71	Spectroscopic characteristics of anionic centers in Î±-Al2O3 crystals bombarded by Cu+ and Ti+ ions. Journal of Applied Spectroscopy, 2008, 75, 452-455.	0.3	6
72	Photoemission and luminescence properties of quartz glass implanted with Cu+ ions. Journal of Surface Investigation, 2008, 2, 450-453.	0.1	10

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73	X-ray emission and photoluminescence spectroscopy of nanostructured silica with implanted copper ions. Physics of the Solid State, 2008, 50, 2322-2326.	0.2	4
74	Intense emission from a grid-stabilized plasma cathode. Technical Physics, 2008, 53, 1308-1313.	0.2	11
75	The effect of irradiation with nitrogen ions on the properties of pyrolytic graphite. Russian Journal of Non-Ferrous Metals, 2008, 49, 420-423.	0.2	0
76	Formation of Nanoscale Domain Structures and Abnormal Switching Kinetics in Lithium Niobate With Surface Layer Modified by Implantation of Copper Ions. Ferroelectrics, 2008, 374, 73-77.	0.3	9
77	On internal waves generated by large-amplitude circular and rectilinear oscillations of a circular cylinder in a uniformly stratified fluid. Journal of Fluid Mechanics, 2008, 613, 329-356.	1.4	13
78	Irradiation effects in carbon fibers after N+-ion irradiation. Surface and Coatings Technology, 2007, 201, 8326-8328.	2.2	18
79	Extension of the gas-pressure operating range and increase in the lifetime of the plasma cathode grid of an ion source. Technical Physics, 2007, 52, 301-305.	0.2	6
80	Internal-wave radiation and optical measurements in stratified fluids. Microgravity Science and Technology, 2007, 19, 144-147.	0.7	1
81	Repetitively pulsed CO2 laser driven by an electron accelerator with a gas-discharge plasma cathode. Laser Physics, 2006, 16, 64-78.	0.6	1
82	Operational characteristics of a plasma cathode with a grid stabilization in a two-stage ion source. Technical Physics, 2006, 51, 204-208.	0.2	0
83	Plasma Cathode for a Broad-Beam Electron Accelerator. Technical Physics Letters, 2005, 31, 122.	0.2	7
84	Magnetic Resonance of Metallic Nanoparticles in Vitreous Silicon Dioxide Implanted with Iron Ions. Physics of the Solid State, 2005, 47, 674.	0.2	2
85	A gas-ion source with a grid-stabilized plasma cathode. Instruments and Experimental Techniques, 2005, 48, 234-238.	0.1	0
86	Glow-discharge-driven bucket ion source. Review of Scientific Instruments, 2004, 75, 1875-1877.	0.6	10
87	Cold-cathode source of ribbon gaseous ion beams. Review of Scientific Instruments, 2004, 75, 1872-1874.	0.6	0
88	Ion-emission properties of a plasma in a gaseous-ion source with a plasma cathode. Doklady Physics, 2004, 49, 19-21.	0.2	0
89	Characteristics of an ion source with a plasma cathode and a multipole magnetic system for confining fast electrons. Technical Physics, 2004, 49, 1202-1207.	0.2	2
90	X-ray emission study of the electronic structure of nanocrystalline Al2O3. Physics of the Solid State, 2004, 46, 2134-2138.	0.2	5

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91	A Gas-Ion Ribbon Beam Source with a Wide-Aperture Cold Hollow Cathode. Instruments and Experimental Techniques, 2003, 46, 85-90.	0.1	1
92	Improvement of the efficiency of a glow discharge-based ion emitter with oscillating electrons. Technical Physics, 2003, 48, 1186-1191.	0.2	7
93	Force on a body in a continuously stratified fluid. Part 2. Sphere. Journal of Fluid Mechanics, 2003, 494, 33-50.	1.4	15
94	Force on a body in a continuously stratified fluid. Part 1. Circular cylinder. Journal of Fluid Mechanics, 2002, 451, 421-443.	1.4	17
95	Pulse and continuous ion beam treatment of polyethylene. Vacuum, 2002, 68, 341-347.	1.6	17
96	High-current pulse sources of broad beams of gas and metal ions for surface treatment. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2000, 439, 31-44.	0.7	28
97	Surface modification of aluminum and chromium by ion implantation of nitrogen with a high current density ion implanter and plasma-source ion implantation. Journal of Materials Research, 1999, 14, 4351-4357.	1.2	3
98	Adhesion of Polytetrafluorethylene modified by an ion beam. Vacuum, 1999, 52, 285-289.	1.6	52
99	Structure of polyethylene after pulse ion beam treatment. Journal of Applied Polymer Science, 1998, 69, 1071-1077.	1.3	44
100	Development of technological sources of gas ions on the basis of hollow-cathode glow discharges. Surface and Coatings Technology, 1997, 96, 81-88.	2.2	52
101	Ion beam modification of polyethylene and adhesion to epoxy adhesive. Vacuum, 1996, 47, 1085-1087.	1.6	26
102	Carbon, Nitrogen, and Oxygen Ion Implantation of Stainless Steel. Materials Research Society Symposia Proceedings, 1995, 396, 661.	0.1	2
103	<title>Technological ion source and its applications</title>. , 1995, , .		4
104	The effect of additional treatment on tribological properties of amorphous carbon coatings on metals. Diamond and Related Materials, 1995, 4, 1020-1024.	1.8	9
105	The formation of extraordinary magnetic states in an ironâ€”nickel alloy with b.c.c.â€”f.c.c. transitions induced by ion irradiation. Surface and Coatings Technology, 1994, 64, 1-4.	2.2	13
106	Wide gas-ion beam source based on an arc discharge in a nonuniform magnetic field. Russian Physics Journal, 1994, 37, 255-262.	0.2	0
107	Breakdown of a-C coatings on ion-implantation-modified metal alloys with a jet of abrasive particles. Diamond and Related Materials, 1994, 3, 779-782.	1.8	5
108	Investigation of striking characteristics of a pulsed low-pressure discharge in magnetic field. , 1994, , .		2

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109	Investigation of an ion-optical system of technological ion-gas source. , 1994, , .		0
110	Broad beam electron sources with plasma cathodes. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1992, 321, 417-428.	0.7	46
111	Formation of a TiNx protective layer by nitrogen ion implantation into titanium. Vacuum, 1991, 42, 731-734.	1.6	9