

Alexander V Vodopyanov

List of Publications by Year in descending order

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papers

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126
times ranked

318
citing authors

#	ARTICLE	IF	CITATIONS
1	A point-like source of extreme ultraviolet radiation based on a discharge in a non-uniform gas flow, sustained by powerful gyrotron radiation of terahertz frequency band. Applied Physics Letters, 2014, 105, .	3.3	66
2	Formation of multi-charged ions and plasma stability at quasigasdynamic plasma confinement in a mirror magnetic trap. Review of Scientific Instruments, 2000, 71, 669-671.	1.3	39
3	New progress of high current gasdynamic ion source (invited). Review of Scientific Instruments, 2016, 87, 02A716.	1.3	38
4	Multiple ionization of metal ions by ECR heating of electrons in vacuum arc plasmas. Review of Scientific Instruments, 2004, 75, 1888-1890.	1.3	35
5	High current ECR source of multicharged ion beams. Nuclear Instruments & Methods in Physics Research B, 2007, 256, 537-542.	1.4	35
6	Observation of pulsed fast electron precipitations and the cyclotron generation mechanism of burst activity in a decaying ECR discharge plasma. Journal of Experimental and Theoretical Physics, 2007, 104, 296-306.	0.9	27
7	Application of the 263 GHz/1 kW gyrotron setup to produce a metal oxide nanopowder by the evaporation-condensation technique. Vacuum, 2017, 145, 340-346.	3.5	26
8	Observation of extreme ultraviolet light emission from an expanding plasma jet with multiply charged argon or xenon ions. Applied Physics Letters, 2018, 113, .	3.3	25
9	High current density ion beam formation from plasma of electron cyclotron resonance discharge. Review of Scientific Instruments, 2004, 75, 1675-1677.	1.3	23
10	Experimental investigations of silicon tetrafluoride decomposition in ECR discharge plasma. Review of Scientific Instruments, 2011, 82, 063503.	1.3	23
11	Gyrotron Microwave Heating of Vacuum Arc Plasma for High-Charge-State Metal Ion Beam Generation. IEEE Transactions on Plasma Science, 2013, 41, 2081-2086.	1.3	23
12	Maser based on cyclotron resonance in a decaying plasma. JETP Letters, 2006, 84, 314-319.	1.4	22
13	Measurement of plasma density in the discharge maintained in a nonuniform gas flow by a high-power terahertz-wave gyrotron. Physics of Plasmas, 2016, 23, .	1.9	22
14	Plasma parameters of an electron cyclotron resonance discharge in a magnetic mirror in a quasi-gasdynamic confinement regime. Technical Physics Letters, 1999, 25, 588-589.	0.7	21
15	Multicharged Ion Generation in Plasma Created by Millimeter Waves and Confined in a Cusp Magnetic Trap. Fusion Science and Technology, 2005, 47, 345-347.	1.1	21
16	Laboratory modeling of nonstationary processes in space cyclotron masers: First results and prospects. Plasma Physics Reports, 2005, 31, 927-937.	0.9	21
17	Metal Oxide Nanopowder Production by Evaporation-Condensation Using a Focused Microwave Radiation at a Frequency of 24 GHz. Journal of Nanotechnology in Engineering and Medicine, 2015, 6, .	0.8	17
18	Gas discharge powered by the focused beam of the high-intensive electromagnetic waves of the terahertz frequency band. Journal Physics D: Applied Physics, 2018, 51, 464002.	2.8	17

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19	Conversion of carbon dioxide in microwave plasma torch sustained by gyrotron radiation at frequency of 24 GHz at atmospheric pressure. <i>Journal of CO2 Utilization</i> , 2020, 40, 101197.	6.8	17
20	High current density production of multicharged ions with ECR plasma heated by gyrotron transmitter. <i>Review of Scientific Instruments</i> , 2002, 73, 528-530.	1.3	16
21	Generation of multiply charged refractory metals in an electron-cyclotron resonant discharge in a direct magnetic trap. <i>Technical Physics</i> , 2005, 50, 1207-1211.	0.7	16
22	Plasma of Vacuum Discharges: The Pursuit of Elevating Metal Ion Charge States, Including a Recent Record of Producing Bi ¹³⁺ . <i>IEEE Transactions on Plasma Science</i> , 2015, 43, 2310-2317.	1.3	16
23	Source for extreme ultraviolet lithography based on plasma sustained by millimeter-wave gyrotron radiation. <i>Journal of Micro/ Nanolithography, MEMS, and MOEMS</i> , 2012, 11, 021123-1.	0.9	14
24	Measurement of electron temperature in a non-equilibrium discharge of atmospheric pressure supported by focused microwave radiation from a 24 GHz gyrotron. <i>AIP Advances</i> , 2019, 9, 105009.	1.3	14
25	Towards 0.99999 28Si. <i>Solid State Communications</i> , 2012, 152, 455-457.	1.9	13
26	A double-stream Xe:He jet plasma emission in the vicinity of 6.7 nm. <i>Applied Physics Letters</i> , 2018, 112, .	3.3	13
27	Extreme-ultraviolet source based on the electron-cyclotron-resonance discharge. <i>JETP Letters</i> , 2008, 88, 95-98.	1.4	12
28	Generation of Electromagnetic Bursts in the Plasma Cyclotron Maser. <i>Radiophysics and Quantum Electronics</i> , 2013, 56, 12-19.	0.5	11
29	Plasma density in discharge sustained in inhomogeneous gas flow by high-power radiation in the terahertz frequency range. <i>Technical Physics Letters</i> , 2017, 43, 186-189.	0.7	11
30	The Radiation Beamline of Novosibirsk Free-Electron Laser Facility Operating in Terahertz, Far-Infrared, and Mid-Infrared Ranges. <i>IEEE Transactions on Terahertz Science and Technology</i> , 2020, 10, 634-646.	3.1	11
31	Multiple ionization of vacuum-arc-generated metal ions in a magnetic trap heated by high-power microwave radiation. <i>Technical Physics Letters</i> , 2007, 33, 872-874.	0.7	10
32	Deposition of microcrystalline silicon in electron-cyclotron resonance discharge (24GHz) plasma from silicon tetrafluoride precursor. <i>Thin Solid Films</i> , 2014, 562, 114-117.	1.8	10
33	Dynamics of the gas discharge in noble gases sustained by the powerful radiation of 0.67 THz gyrotron. <i>Physics of Plasmas</i> , 2020, 27, .	1.9	10
34	Soft X-rays generated by the electron-cyclotron resonance discharge in heavy gases sustained by a high-power microwave beam in a magnetic trap. <i>Technical Physics Letters</i> , 2000, 26, 1075-1077.	0.7	9
35	Production of WO ₃ tungsten oxide nanopowders by evaporation-condensation process using focused 24-GHz microwave radiation. <i>High Energy Chemistry</i> , 2015, 49, 267-272.	0.9	9
36	Production of Nanopowders by the Evaporation-Condensation Method Using a Focused Microwave Radiation. <i>Radiophysics and Quantum Electronics</i> , 2017, 59, 698-705.	0.5	9

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37	An experimental setup for studying the interaction of dense supersonic plasma flows with an arched magnetic field. Technical Physics Letters, 2015, 41, 901-904.	0.7	8
38	First experiments with gasdynamic ion source in CW mode. Review of Scientific Instruments, 2016, 87, 02A715.	1.3	8
39	Breakdown of the heavy noble gases in a focused beam of powerful sub-THz gyrotron. Physics of Plasmas, 2019, 26, .	1.9	8
40	Generation of high charge state platinum ions on vacuum arc plasma heated by gyrotron radiation. Review of Scientific Instruments, 2014, 85, 02B902.	1.3	7
41	CW Multifrequency <i>K</i> -Band Source Based on a Helical-Waveguide Gyro-TWT With Delayed Feedback. IEEE Transactions on Electron Devices, 2021, 68, 330-335.	3.0	7
42	Observation of plasma microwave emission during the injection of supersonic plasma flows into magnetic arch. Plasma Physics and Controlled Fusion, 2017, 59, 075001.	2.1	6
43	Glow of the Plasma of a Pulse Discharge Produced in Nitrogen by High-Power Terahertz-Wave Radiation. Radiophysics and Quantum Electronics, 2017, 60, 136-142.	0.5	6
44	Optical emission spectroscopy of non-equilibrium microwave plasma torch sustained by focused radiation of gyrotron at 24 GHz. Journal Physics D: Applied Physics, 2020, 53, 305203.	2.8	6
45	An extreme ultraviolet radiation source based on plasma heated by millimeter range radiation. Bulletin of the Russian Academy of Sciences: Physics, 2011, 75, 64-66.	0.6	5
46	Plasma enhanced growth of GaN single crystalline layers from Ga vapour. Crystal Research and Technology, 2013, 48, 186-192.	1.3	5
47	Non-equilibrium Atmospheric-Pressure Plasma Torch Sustained in a Quasi-optical Beam of Subterahertz Radiation. Journal of Infrared, Millimeter, and Terahertz Waves, 2020, 41, 711-727.	2.2	5
48	Pulsed vacuum arc plasma source of supersonic metal ion flow. Review of Scientific Instruments, 2020, 91, 023302.	1.3	5
49	High current multicharged metal ion source using high power gyrotron heating of vacuum arc plasma. Review of Scientific Instruments, 2008, 79, 02B304.	1.3	4
50	Excitation of electromagnetic waves in dense plasma during the injection of supersonic plasma flows into magnetic arch. AIP Conference Proceedings, 2016, , .	0.4	4
51	A point-like plasma, sustained by powerful radiation of terahertz gyrotrons, as a source of ultraviolet light. , 2017, , .		4
52	High rate production of nanopowders by the evaporation “ condensation method using gyrotron radiation. EPJ Web of Conferences, 2017, 149, 02022.	0.3	4
53	Noise suppression and stabilization of an ion beam extracted from dense plasma. Journal of Applied Physics, 2007, 102, 054504.	2.5	3
54	Glow plasma trigger for electron cyclotron resonance ion sources. Review of Scientific Instruments, 2010, 81, 02A305.	1.3	3

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55	Formation of Multicharged Metal Ions in Vacuum Arc Plasma Heated by Gyrotron Radiation. Plasma Science and Technology, 2011, 13, 596-599.	1.5	3
56	Chlorine-free plasma-based vapour growth of GaN. Physica Status Solidi C: Current Topics in Solid State Physics, 2012, 9, 440-444.	0.8	3
57	Monocrystalline InN Films Grown at High Rate by Organometallic Vapor Phase Epitaxy with Nitrogen Plasma Activation Supported by Gyrotron Radiation. Japanese Journal of Applied Physics, 2013, 52, 110201.	1.5	3
58	Microwave Interferometry of Chemically Active Plasma of RF Discharge in Mixtures Based on Fluorides of Silicon and Germanium. Plasma Chemistry and Plasma Processing, 2017, 37, 1655-1661.	2.4	3
59	The dynamics of supersonic plasma flow interaction with the magnetic arch. Plasma Physics and Controlled Fusion, 2019, 61, 035001.	2.1	3
60	Measurements of the absolute intensities of spectral lines of Kr, Ar, and O ions in the wavelength range of 10 – 18 nm under pulsed laser excitation. Quantum Electronics, 2021, 51, 700-707.	1.0	3
61	Microwave assisted synthesis of WC nanopowder from nanosized multicomponent system W-C produced in thermal plasma reactor. International Journal of Refractory Metals and Hard Materials, 2021, 100, 105618.	3.8	3
62	Positive column dynamics of a low-current atmospheric pressure discharge in flowing argon. Plasma Sources Science and Technology, 2022, 31, 015009.	3.1	3
63	Resonant increase of x-ray emission in a microwave discharge at half-gyrofrequency. Physics of Plasmas, 2002, 9, 2781-2785.	1.9	2
64	Generation of high charge state metal ion beams by electron cyclotron resonance heating of vacuum arc plasma in cusp trap. Review of Scientific Instruments, 2012, 83, 02A309.	1.3	2
65	Growing InN films by plasma-assisted metalorganic vapor-phase epitaxy on Al ₂ O ₃ and YSZ substrates in plasma generated by gyrotron radiation under electron cyclotron resonance conditions. Technical Physics Letters, 2013, 39, 51-54.	0.7	2
66	Experimental investigation of powerful THz gyrotrons for initiation of localized gas discharge. , 2015, , .		2
67	Kinetic instabilities in a mirror-confined plasma sustained by high-power microwave radiation. AIP Conference Proceedings, 2016, , .	0.4	2
68	Gas breakdown by a focused CW 263 GHz beam. , 2016, , .		2
69	Sources of ultraviolet light based on microwave discharges. EPJ Web of Conferences, 2017, 149, 02009.	0.3	2
70	Gas breakdown by a focused beam of THz waves. EPJ Web of Conferences, 2017, 149, 02031.	0.3	2
71	Parameters of a CW Plasma Torch of Atmospheric Pressure Sustained by Focused Sub-Terahertz Gyrotron Radiation. , 2018, , .		2
72	Method for determining plasma density in a magnetic field. Journal of Physics: Conference Series, 2019, 1400, 077022.	0.4	2

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73	Applications of the gas discharge sustained by the powerful radiation of THz gyrotrons. Journal of Physics: Conference Series, 2019, 1400, 077032.	0.4	2
74	Dynamics of a Sub-terahertz Discharge in the Heavy Noble Gases Produced by a High-density Radiation Field. , 2019, , .		2
75	Supersonic Flow of Vacuum Arc Plasma in a Magnetic Field. IEEE Transactions on Plasma Science, 2021, 49, 2478-2489.	1.3	2
76	THz gas discharge in nitrogen as a source of ultraviolet radiation. Journal of Physics: Conference Series, 2020, 1697, 012213.	0.4	2
77	Electron density and energy distribution function in the plume of a Hall-type thruster. Review of Scientific Instruments, 2002, 73, 931-933.	1.3	1
78	Multiple Ionization Of Metal Ions By ECR Heating Of Electrons In Vacuum Arc Plasmas. AIP Conference Proceedings, 2005, , .	0.4	1
79	Short-pulse ECR: A source of multiply charged ions. Technical Physics, 2010, 55, 1797-1801.	0.7	1
80	He2+source based on Penning-type discharge with electron cyclotron resonant heating by millimeter waves. Plasma Sources Science and Technology, 2011, 20, 035014.	3.1	1
81	On the Possibility of ECR-Discharge with Overcritical Plasma Density in Axisymmetrical Magnetic Trap. Fusion Science and Technology, 2011, 59, 223-225.	1.1	1
82	Multicharged ion source based on Penning-type discharge with electron cyclotron resonance heating by millimeter waves. Review of Scientific Instruments, 2012, 83, 02A325.	1.3	1
83	On the feasibility of electron cyclotron heating of overcritical plasma in a magnetic mirror trap. Plasma Physics Reports, 2012, 38, 443-449.	0.9	1
84	Indium Nitride Film Growth by Metal Organic Chemical Vapor Deposition with Nitrogen Activation in Electron Cyclotron Resonance Discharge Sustained by 24 GHz Gyrotron Radiation. Japanese Journal of Applied Physics, 2013, 52, 08JD07.	1.5	1
85	High-rate growth of InN films on fianite and sapphire substrates by metalorganic vapor phase epitaxy with plasma-assisted nitrogen activation. Technical Physics Letters, 2015, 41, 266-269.	0.7	1
86	Reactive nitrogen source based on ECR discharge sustained by 24 GHz radiation. Japanese Journal of Applied Physics, 2015, 54, 040302.	1.5	1
87	Gas breakdown by a focused beam of CW THz radiation. , 2017, , .		1
88	Plasma losses from mirror trap, initiated by microwave radiation under electron cyclotron resonance conditions. Plasma Physics and Controlled Fusion, 2018, 60, 115005.	2.1	1
89	Vacuum Arc Plasma Heated by Sub-Terahertz Radiation as a Source of Extreme Ultraviolet Light. IEEE Transactions on Plasma Science, 2019, 47, 828-831.	1.3	1
90	A new plasma-based approach to hydrogen intercalation of graphene. Superlattices and Microstructures, 2021, 160, 107066.	3.1	1

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91	Peculiarities of Pulsed Heating by the Radiation of a Subterahertz Gyrotron in the Production of Metal Oxide Nanopowders. Technical Physics Letters, 2020, 46, 760-762.	0.7	1
92	Studies of terahertz discharge in noble gases using a Michelson interferometer. Journal of Physics: Conference Series, 2020, 1697, 012220.	0.4	1
93	Prospects of the gas-discharge EUV source based on the plasma creation by powerful pulsed terahertz gyrotrons. , 2020, , .		1
94	Interaction of plasma flow heated by gyrotron radiation with magnetic fields of an arched configuration. , 2020, , .		1
95	Stand for Experimentally Studying Local Parameters of Chemically Active Induction Discharge Plasma. Instruments and Experimental Techniques, 2022, 65, 419-425.	0.5	1
96	Mirror-Trapped Plasma Heated by High-Power Millimeter-Wave Radiation as an Electron-Cyclotron-Resonance Source of Soft X-Rays. Japanese Journal of Applied Physics, 2001, 40, 1016-1017.	1.5	0
97	Dense nonequilibrium plasma produced by powerful millimeter wave radiation. , 0, , .		0
98	Source of multicharged ions and extreme ultraviolet radiation based on plasma sustained by gyrotron radiation. , 2008, , .		0
99	Plasma magneto-compressional cyclotron maser. , 2010, , .		0
100	Gyrotron heating of vacuum arc plasma for high charge state metal ion beam generation. , 2012, , .		0
101	Plasma glow dynamics of pulsed nitrogen discharge induced by the powerful terahertz waves. , 2015, , .		0
102	Measurement of plasma density in the discharge maintained in a nonuniform gas flow by a powerful radiation of terahertz-band gyrotron. , 2016, , .		0
103	Pulse-Periodic Regimes of Kinetic Instabilities in the Non-Equilibrium Plasma of an Electron Cyclotron Resonance Discharge Maintained by Continuous-Wave Radiation of a 24 GHz Gyrotron. Radiophysics and Quantum Electronics, 2017, 59, 706-710.	0.5	0
104	Heating of metal powders in the external high-frequency field. , 2017, , .		0
105	Applications of THz band gyrotrons at IAP RAS: Current state and prospects. , 2017, , .		0
106	Point-like source of extreme ultraviolet radiation based on the plasma of THz gas discharge in a focused beam. , 2017, , .		0
107	The heating system of metal particles in the microwave field with a frequency of 24 GHz. , 2017, , .		0
108	Light emission properties of a discharge induced in a gas flow by terahertz waves in the vacuum and extreme ultraviolet range. EPJ Web of Conferences, 2017, 149, 02032.	0.3	0

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109	On the Prospects for the Study of a Point Discharge Sustained by a Terahertz Free Electron Laser Radiation in an Inhomogeneous Gas Flow. , 2019, , .		0
110	Supersonic plasma flow injection across the magnetic arch in a table-top laboratory setup. Journal of Physics: Conference Series, 2019, 1400, 077034.	0.4	0
111	High-Current Vacuum-Arc Plasma Source for Producing Supersonic Plasma Flows in Magnetic Fields. , 2020, , .		0
112	Tungsten Carbide Nanopowder Synthesis under the Influence of Microwave Electromagnetic Radiation on a Wâ€C System Nanocomposite Produced in a Thermal Plasma. Inorganic Materials: Applied Research, 2021, 12, 735-739.	0.5	0
113	Method to Measure the Dielectric Parameters of Powders in Subterahertz and Terahertz Ranges. IEEE Transactions on Terahertz Science and Technology, 2021, 11, 375-380.	3.1	0
114	Gas Breakdown in the Focused Beam of NovoFEL THz Radiation. , 2021, , .		0
115	TUNGSTEN CARBIDE NANOPOWDER SYNTHESIS UNDER THE EXPOSURE OF 24 GHZ GYROTRON RADIATION ON THE NANOCOMPOSITE OF THE W-C SYSTEM OBTAINED IN A THERMAL PLASMA. , 0, , .		0
116	Study of a gas breakdown in a focused beam of terahertz radiation at the NovoFEL user station. Journal of Physics: Conference Series, 2020, 1697, 012217.	0.4	0
117	THz range gyrotron-based facility for material science and plasma physics research. , 2020, , .		0
118	Gas discharge sustained by the powerful radiation of 0.26 THz CW gyrotron. , 2020, , .		0
119	Continuous atmospheric pressure discharges in terahertz and sub-terahertz focused beams. , 2020, , .		0
120	THz Gas Discharge Sustained by Powerful Gyrotrons in the Mixtures of Noble Gases with Nitrogen. , 2020, , .		0
121	Prospects for creating an intense ultraviolet source based on the creation of a plasma discharge by a powerful terahertz radiation pulse. , 2020, , .		0
122	Production of metal oxides nanopowders by evaporation-condensation method when heated by radiation of the 0.26/0.53 THz gyrotron setup. , 2020, , .		0
123	Preparation of a Highly Dispersed Powder of Tin Monoxide by the Evaporation/Condensation Method under Heating with Focused Radiation of a Subterahertz Gyrotron. Technical Physics Letters, 2021, 47, 255-258.	0.7	0
124	Powerful terahertz pulsed large-orbit gyrotron for creating an intense ultraviolet plasma source. , 2021, , .		0
125	Experimental Evaluation of the Temperature Dependence of the Absorption of Metal Oxide Powders Heated by a 527-GHz Gyrotron Radiation. Technical Physics Letters, 2021, 47, 827-829.	0.7	0
126	Production of highly dispersed powders of metal-oxides by evaporation-condensation technique when heated by focused radiation of terahertz-range gyrotron setup. Journal of Physics: Conference Series, 2022, 2256, 012030.	0.4	0