

# Vladimir Bratman

## List of Publications by Year in descending order

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142  
papers

3,574  
citations

159585

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144013

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144  
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144  
docs citations

144  
times ranked

707  
citing authors

#	ARTICLE	IF	CITATIONS
1	Efficiency of terahertz undulator radiation from short electron bunches moving in the field of permanently magnetized helices. <i>Physics of Plasmas</i> , 2021, 28, .	1.9	4
2	Injection of a short electron bunch into THz radiation section with an undulator and strong guiding magnetic fields. <i>Physics of Plasmas</i> , 2021, 28, .	1.9	6
3	Broadband Terahertz Undulator Radiation from Short Electron Bunches into the Dominant Mode of an Oversized Waveguide. , 2021, , .		0
4	Injection of Dense Electron Bunches into Undulator Radiation Sources Based on the Negative Mass Regime. , 2021, , .		0
5	Undulators in the form of Permanently Magnetized Helices. , 2021, , .		0
6	Simultaneous high-frequency Super-Radiance and low-frequency Coherent Spontaneous Radiation from ultrarelativistic electrons in a waveguide. <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , 2020, 976, 164268.	1.6	7
7	Efficiency enhancement of THz radiation from an electron bunch in a waveguide due to low-frequency stabilization. <i>Journal of Physics: Conference Series</i> , 2020, 1697, 012058.	0.4	0
8	Developments of terahertz large-orbit high-harmonic gyrotrons at IAP RAS. , 2019, , .		1
9	Capabilities of Terahertz Cyclotron and Undulator Radiation from Short Ultrarelativistic Electron Bunches. <i>Instruments</i> , 2019, 3, 55.	1.8	7
10	High-Harmonic Gyrotrons with Axis-Encircling Electron Beams at IAP RAS. <i>Radiophysics and Quantum Electronics</i> , 2019, 62, 513-519.	0.5	4
11	Evolution of dense spatially modulated electron bunches. <i>Physics of Plasmas</i> , 2018, 25, 033102.	1.9	2
12	Terahertz Large-Orbit High-Harmonic Gyrotrons at IAP RAS: Recent Experiments and New Designs. <i>IEEE Transactions on Electron Devices</i> , 2018, 65, 2287-2293.	3.0	74
13	Terahertz Undulator Radiation of Stabilized Dense Electron Beams. <i>Bulletin of the Russian Academy of Sciences: Physics</i> , 2018, 82, 1587-1591.	0.6	1
14	A Compact THz Source for Enhancing the Sensitivity of Nuclear Magnetic Resonance Spectroscopy with Dynamic Nuclear Polarization. <i>Bulletin of the Russian Academy of Sciences: Physics</i> , 2018, 82, 1592-1595.	0.6	3
15	Terahertz Gyrotrons at High Cyclotron Harmonics with Irregular Electrodynamical Systems. <i>Bulletin of the Russian Academy of Sciences: Physics</i> , 2018, 82, 1582-1586.	0.6	0
16	Possibility of Effective High-Frequency Generation in Low-Voltage Gyrotrons at the Second Cyclotron Harmonic. <i>Radiophysics and Quantum Electronics</i> , 2018, 61, 204-215.	0.5	0
17	Undulator radiation of premodulated and nonmodulated electron bunches in the negative mass instability regime. <i>Physical Review Accelerators and Beams</i> , 2018, 21, .	1.6	9
18	Numerical Study of a Low-Voltage Gyrotron (â€œGyrotrinoâ€) for DNP/NMR Spectroscopy. <i>IEEE Transactions on Plasma Science</i> , 2017, 45, 644-648.	1.3	23



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37	Design and Numerical Analysis of W-band Oscillators With Hollow Electron Beam. IEEE Transactions on Electron Devices, 2014, 61, 1795-1799.	3.0	12
38	New Versions of Terahertz Radiation Sources for Dynamic Nuclear Polarization in Nuclear Magnetic Resonance Spectroscopy. Radiophysics and Quantum Electronics, 2014, 56, 532-541.	0.5	8
39	Frequency Tuning in a Subterahertz Gyrotron With a Variable Cavity. IEEE Transactions on Electron Devices, 2014, 61, 3529-3533.	3.0	10
40	Numerical simulation of a 1.37 THz gyro-multiplier. , 2013, , .		0
41	Features of plasma glow in low pressure terahertz gas discharge. Physics of Plasmas, 2013, 20, .	1.9	19
42	THz Gyrotron and BWO Designed for Operation in DNP-NMR Spectrometer Magnet. Journal of Infrared, Millimeter, and Terahertz Waves, 2013, 34, 837-846.	2.2	19
43	Low pressure gas discharge in the quasioptical beams of the powerful terahertz radiation. , 2013, , .		0
44	Low pressure gas discharge in the quasioptical beams of the powerful terahertz radiation. , 2013, , .		1
45	X-band pulse compression using a five-fold helically corrugated waveguide. , 2012, , .		0
46	High-harmonic terahertz gyrotrons with sectioned cavities. , 2012, , .		0
47	Numerical investigation of gyro-multiplier schemes. , 2012, , .		1
48	High-frequency devices with weakly relativistic hollow thin-wall electron beams. , 2012, , .		1
49	High-frequency devices with weakly relativistic hollow thin-wall electron beams. Physics of Plasmas, 2012, 19, 020704.	1.9	10
50	Development of a Magnetic Cusp Gun for Terahertz Harmonic Gyrodevices. IEEE Transactions on Electron Devices, 2012, 59, 3635-3640.	3.0	25
51	Numerical simulations of a co-harmonic gyrotron. Journal Physics D: Applied Physics, 2012, 45, 065105.	2.8	11
52	Gyrotron Development for High Power THz Technologies at IAP RAS. Journal of Infrared, Millimeter, and Terahertz Waves, 2012, 33, 715-723.	2.2	41
53	Plasma creation by terahertz electromagnetic radiation. Physics of Plasmas, 2011, 18, .	1.9	37
54	Mastering the terahertz domain: sources and applications. Physics-Usppekhi, 2011, 54, 837-844.	2.2	55

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55	Experimental demonstration of Smith's Purcell radiation enhancement by frequency multiplication in open cavity. Applied Physics Letters, 2011, 98, .	3.3	37
56	Recent progress on a co-harmonic gyrotron. , 2011, , .		2
57	Electron-optical system of terahertz gyrotron. Journal of Communications Technology and Electronics, 2011, 56, 500-507.	0.5	9
58	Microwave source of multigigawatt peak power based on a relativistic backward-wave oscillator and a compressor. Technical Physics, 2011, 56, 269-273.	0.7	10
59	Terahertz Gyrotrons at IAP RAS: Status and New Designs. Journal of Infrared, Millimeter, and Terahertz Waves, 2011, 32, 371-379.	2.2	56
60	Voltage-tuned relativistic backward wave oscillator. Technical Physics Letters, 2010, 36, 140-143.	0.7	5
61	Terahertz Orotrons and Oromultipliers. IEEE Transactions on Plasma Science, 2010, 38, 1466-1471.	1.3	60
62	High-harmonic sectioned-cavity THz gyrotrons. , 2010, , .		0
63	Experimental results on microwave pulse compression using helically corrugated waveguide. Journal of Applied Physics, 2010, 108, 054908.	2.5	13
64	5-fold helically corrugated waveguide dispersion measurements. , 2010, , .		1
65	Generation of 3 GW microwave pulses in X-band from a combination of a relativistic backward-wave oscillator and a helical-waveguide compressor. Physics of Plasmas, 2010, 17, .	1.9	39
66	Orotron operation at the second harmonic of the surface wave frequency. , 2010, , .		0
67	Progress in studying a self-excited gyromultiplier. , 2009, , .		1
68	Large-Orbit Gyrotron operation in terahertz frequency range. , 2009, , .		2
69	Review of Subterahertz and Terahertz Gyrodevices at IAP RAS and FIR FU. IEEE Transactions on Plasma Science, 2009, 37, 36-43.	1.3	120
70	Large-orbit Subterahertz and Terahertz gyrotrons. Radiophysics and Quantum Electronics, 2009, 52, 472-481.	0.5	12
71	Experimental study of a fourth-harmonic gyromultiplier. Physics of Plasmas, 2009, 16, .	1.9	40
72	Large-Orbit Gyrotron Operation in the Terahertz Frequency Range. Physical Review Letters, 2009, 102, 245101.	7.8	257

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73	A 1-THz third-harmonic large-orbit gyrotron. , 2009, , .		2
74	Smithâ€™Purcell frequency multiplier with synchronization of radiation from a wide electron beam. Applied Physics Letters, 2009, 94, .	3.3	14
75	Waveguide system for high-power microwave pulse compression. , 2009, , .		1
76	Self-exciting single-cavity gyromultiplier. , 2008, , .		3
77	Terahertz high-harmonic gyrotrons and gyro-multipliers. , 2008, , .		3
78	Gyro-TWTs and Gyro-BWOs with helically corrugated waveguides. , 2007, , .		4
79	Title is missing!. Physics-Uspekhi, 2007, 50, 303.	2.2	5
80	Method for achievement of a multigigawatt peak power by compressing microwave pulses of a relativistic backward-wave oscillator in a helical waveguide. Radiophysics and Quantum Electronics, 2007, 50, 36-48.	0.5	9
81	High-efficiency wideband gyro-TWTs and gyro-BWOs with helically corrugated waveguides. Radiophysics and Quantum Electronics, 2007, 50, 95-107.	0.5	58
82	Excitation of orotron oscillations at the doubled frequency of a surface wave. Radiophysics and Quantum Electronics, 2007, 50, 780-785.	0.5	21
83	Design of a Powerful and Compact THz Oscillator. Journal of Infrared, Millimeter and Terahertz Waves, 2007, 27, 1063-1071.	0.6	7
84	Theory and simulations of a gyrotron backward wave oscillator using a helical interaction waveguide. Applied Physics Letters, 2006, 89, 091504.	3.3	84
85	Sources of Coherent Terahertz Radiation. AIP Conference Proceedings, 2006, , .	0.4	21
86	RF Pulse Compression Using Helically Corrugated Waveguides. AIP Conference Proceedings, 2006, , .	0.4	4
87	Frequency multiplication in gyrotron autooscillators. Technical Physics Letters, 2006, 32, 84-87.	0.7	11
88	Pulsed wideband orotrons of millimeter and submillimeter waves. Radiophysics and Quantum Electronics, 2006, 49, 866-871.	0.5	13
89	Imaging the Output Field Pattern of Short Millimeter Wave Sources Using Visible Continuum Emitted by the Cs-Xe DC Discharge. , 2006, , .		2
90	Electronâ€™Optical System for a Large-Orbit Gyrotron. Technical Physics, 2005, 50, 1611.	0.7	8

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91	Gyro-BWO Experiments Using a Helical Interaction Waveguide. IEEE Transactions on Electron Devices, 2005, 52, 839-844.	3.0	90
92	Submillimeter-wave large-orbit gyrotron. Radiophysics and Quantum Electronics, 2005, 48, 731-736.	0.5	34
93	Microwave pulse compression using a helically corrugated waveguide. IEEE Transactions on Plasma Science, 2005, 33, 661-667.	1.3	41
94	Frequency-Tunable CW Gyro-BWO With a Helically Rippled Operating Waveguide. IEEE Transactions on Plasma Science, 2004, 32, 884-889.	1.3	46
95	Dispersion of helically corrugated waveguides: Analytical, numerical, and experimental study. Physical Review E, 2004, 70, 046402.	2.1	78
96	Pulsed Orotron – A new microwave source for submillimeter pulse high-field electron paramagnetic resonance spectroscopy. Review of Scientific Instruments, 2004, 75, 2926-2936.	1.3	58
97	Compression of Frequency-Modulated Pulses using Helically Corrugated Waveguides and Its Potential for Generating Multigigawatt rf Radiation. Physical Review Letters, 2004, 92, 118301.	7.8	76
98	Millimeter-Wave Relativistic Electron Devices. Radiophysics and Quantum Electronics, 2003, 46, 769-781.	0.5	2
99	Gyrodevices with Axis-Encircling Electron Beams. AIP Conference Proceedings, 2003, , .	0.4	1
100	High Power RF Generation by Compression of Frequency Modulated Pulses. AIP Conference Proceedings, 2003, , .	0.4	0
101	Long-Pulse Operation at Constant Output Power and Single-Frequency Mode of a High-Power Electrostatic Free-Electron Maser with Depressed Collector. Physical Review Letters, 2002, 89, 214801.	7.8	8
102	Broadband Orotron Operation at Millimeter and Submillimeter Waves. Journal of Infrared, Millimeter and Terahertz Waves, 2002, 23, 1595-1601.	0.6	16
103	10-MW, W-band RF source for advanced accelerator research. AIP Conference Proceedings, 2001, , .	0.4	0
104	A high power, tunable free electron maser for fusion. Fusion Engineering and Design, 2001, 53, 423-430.	1.9	4
105	A follow-up of the FOM fusion FEM for 1 MW, 1 s. Fusion Engineering and Design, 2001, 53, 577-586.	1.9	1
106	Temporal Dynamics of Mode Interaction in Submillimeter-Wave Second-Harmonic Gyrotron. Journal of Infrared, Millimeter and Terahertz Waves, 2001, 22, 1409-1420.	0.6	13
107	Cooperation of traveling and quasi-cutoff waves in a cyclotron-resonance maser. Technical Physics, 2001, 46, 1001-1008.	0.7	2
108	Experimental study of CRM with simultaneous excitation of traveling and near-cutoff waves (CARM-gyrotron). IEEE Transactions on Plasma Science, 2001, 29, 609-612.	1.3	3

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109	Mode dynamics in a free electron maser with broadband frequency-dispersive feedback. <i>Physics of Plasmas</i> , 2001, 8, 638-642.	1.9	4
110	Effects of Spatial Reproduction and Multiplication for Electron Waves in Semiconductor Nanostructures. <i>Physica Status Solidi (B): Basic Research</i> , 2000, 221, 459-462.	1.5	9
111	Spurious excitation of near-cutoff modes in free-electron masers. <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , 2000, 445, 1-6.	1.6	1
112	The spread of the initial energy of electrons in a gyrotron due to the negative-mass instability developing in a magnetron-injector gun. <i>Technical Physics</i> , 2000, 45, 470-475.	0.7	3
113	Space charge effects as a source of electron energy spread and efficiency degradation in gyrotrons. <i>IEEE Transactions on Plasma Science</i> , 2000, 28, 633-637.	1.3	10
114	A gyrodevice based on simultaneous excitation of opposite and forward waves (Gyrotron BWO-TWT). <i>IEEE Transactions on Plasma Science</i> , 2000, 28, 1742-1746.	1.3	4
115	Effective coupling of cyclotron autoresonance maser and gyrotron modes on a phase-synchronized electron beam. <i>Physical Review E</i> , 2000, 62, 4207-4215.	2.1	25
116	Effective Co-Generation of Opposite and Forward Waves in Cyclotron-Resonance Masers. <i>Physical Review Letters</i> , 2000, 85, 3424-3427.	7.8	12
117	High-Gain Wide-Band Gyrotron Traveling Wave Amplifier with a Helically Corrugated Waveguide. <i>Physical Review Letters</i> , 2000, 84, 2746-2749.	7.8	225
118	High-power electrostatic free-electron maser as a future source for fusion plasma heating: Experiments in the short-pulse regime. <i>Physical Review E</i> , 1999, 59, 6058-6063.	2.1	31
119	To the Problem of Single-Mode Operation in Smith-Purcell FEM. <i>Journal of Infrared, Millimeter and Terahertz Waves</i> , 1999, 20, 991-1007.	0.6	1
120	Moderately relativistic high-harmonic gyrotrons for millimeter/submillimeter wavelength band. <i>IEEE Transactions on Plasma Science</i> , 1999, 27, 456-461.	1.3	88
121	RF Space-Charge Effects in CRM with Arbitrary Phase Velocity of the Operating Wave. <i>Journal of Infrared, Millimeter and Terahertz Waves</i> , 1998, 19, 939-956.	0.6	1
122	Theory of gyro devices with thin electron beams (large-orbit gyrotrons). <i>Technical Physics</i> , 1998, 43, 1219-1225.	0.7	19
123	Gyro-TWT with a helical operating waveguide: new possibilities to enhance efficiency and frequency bandwidth. <i>IEEE Transactions on Plasma Science</i> , 1998, 26, 508-518.	1.3	199
124	Gyrotron Traveling Wave Amplifier with a Helical Interaction Waveguide. <i>Physical Review Letters</i> , 1998, 81, 5680-5683.	7.8	217
125	First microwave generation in the FOM free-electron maser. <i>Plasma Physics and Controlled Fusion</i> , 1998, 40, A139-A156.	2.1	20
126	Recovery of electron energy in cyclotron autoresonance masers. <i>Physics of Plasmas</i> , 1997, 4, 2285-2291.	1.9	12

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127	Spectrum of synchrotron radiation from an extended source. Technical Physics, 1997, 42, 449-451.	0.7	2
128	Experimental study of an FEM with a microwave system of a new type. IEEE Transactions on Plasma Science, 1996, 24, 744-749.	1.3	11
129	High-efficiency CARM. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1996, 375, 360-362.	1.6	3
130	A method of forming a high-quality electron beam for free electron masers. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1996, 375, 393-395.	1.6	0
131	Radiation and radiative damping of a charged plane, oscillating with a relativistic velocity. Physics Letters, Section A: General, Atomic and Solid State Physics, 1995, 206, 377-382.	2.1	19
132	To the problem of energy recuperation in gyrotrons. Journal of Infrared, Millimeter and Terahertz Waves, 1995, 16, 459-471.	0.6	22
133	Experimental Demonstration of High-Efficiency Cyclotron-Autoresonance-Maser Operation. Physical Review Letters, 1995, 75, 3102-3105.	7.8	54
134	Phase mixing of bunches and decrease of negative mass instability increments in cyclotron resonance masers. Physics of Plasmas, 1995, 2, 557-564.	1.9	28
135	Cyclotron autoresonance masers' recent experiments and prospects. International Journal of Electronics, 1992, 72, 969-981.	1.4	27
136	Cyclotron autoresonance maser with high Doppler frequency up-conversion. Journal of Infrared, Millimeter and Terahertz Waves, 1992, 13, 1857-1873.	0.6	8
137	Millimeter-Wave HF Relativistic Electron Oscillators. IEEE Transactions on Plasma Science, 1987, 15, 2-15.	1.3	68
138	Powerful millimeter-wave generators based on the stimulated Cerenkov radiation of relativistic electron beams. Journal of Infrared, Millimeter and Terahertz Waves, 1984, 5, 1311-1332.	0.6	30
139	Relativistic gyrotrons and cyclotron autoresonance masers. International Journal of Electronics, 1981, 51, 541-567.	1.4	286
140	Conditions for self-excitation of a cyclotron resonance maser with a nonresonant electrodynamic system. Radiophysics and Quantum Electronics, 1975, 18, 772-779.	0.5	15
141	The starting regime for an MCR-monotron with a cavity having a low diffraction Q. Radiophysics and Quantum Electronics, 1974, 17, 1181-1187.	0.5	5
142	Theory of gyrotrons with a nonfixed structure of the high-frequency field. Radiophysics and Quantum Electronics, 1973, 16, 474-480.	0.5	131