

Sergey Samsonov

List of Publications by Year in descending order

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114
papers

1,924
citations

304368

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114
all docs

114
docs citations

114
times ranked

379
citing authors

#	ARTICLE	IF	CITATIONS
1	High-Gain Wide-Band Gyrotron Traveling Wave Amplifier with a Helically Corrugated Waveguide. Physical Review Letters, 2000, 84, 2746-2749.	2.9	225
2	Gyrotron Traveling Wave Amplifier with a Helical Interaction Waveguide. Physical Review Letters, 1998, 81, 5680-5683.	2.9	217
3	Ka-Band Gyrotron Traveling-Wave Tubes With the Highest Continuous-Wave and Average Power. IEEE Transactions on Electron Devices, 2014, 61, 4264-4267.	1.6	109
4	Gyro-BWO Experiments Using a Helical Interaction Waveguide. IEEE Transactions on Electron Devices, 2005, 52, 839-844.	1.6	90
5	Theory and simulations of a gyrotron backward wave oscillator using a helical interaction waveguide. Applied Physics Letters, 2006, 89, 091504.	1.5	84
6	Dispersion of helically corrugated waveguides: Analytical, numerical, and experimental study. Physical Review E, 2004, 70, 046402.	0.8	78
7	Compression of Frequency-Modulated Pulses using Helically Corrugated Waveguides and Its Potential for Generating Multigigawatt rf Radiation. Physical Review Letters, 2004, 92, 118301.	2.9	76
8	High-efficiency wideband gyro-TWTs and gyro-BWOs with helically corrugated waveguides. Radiophysics and Quantum Electronics, 2007, 50, 95-107.	0.1	58
9	Experimental Demonstration of High-Efficiency Cyclotron-Autoresonance-Maser Operation. Physical Review Letters, 1995, 75, 3102-3105.	2.9	54
10	Frequency-Tunable CW Gyro-BWO With a Helically Rippled Operating Waveguide. IEEE Transactions on Plasma Science, 2004, 32, 884-889.	0.6	46
11	CW Operation of a W-Band High-Gain Helical-Waveguide Gyrotron Traveling-Wave Tube. IEEE Electron Device Letters, 2020, 41, 773-776.	2.2	46
12	Microwave pulse compression using a helically corrugated waveguide. IEEE Transactions on Plasma Science, 2005, 33, 661-667.	0.6	41
13	Cascade of Two W-Band Helical-Waveguide Gyro-TWTs With High Gain and Output Power: Concept and Modeling. IEEE Transactions on Electron Devices, 2017, 64, 1305-1309.	1.6	41
14	Experimental study of a fourth-harmonic gyromultiplier. Physics of Plasmas, 2009, 16, .	0.7	40
15	Generation of 3 CW microwave pulses in X-band from a combination of a relativistic backward-wave oscillator and a helical-waveguide compressor. Physics of Plasmas, 2010, 17, .	0.7	39
16	Resonant reflectors for free electron masers. Journal of Infrared, Millimeter and Terahertz Waves, 1995, 16, 745-752.	0.6	35
17	Submillimeter-wave large-orbit gyrotron. Radiophysics and Quantum Electronics, 2005, 48, 731-736.	0.1	34
18	Experimental Study of Microwave Pulse Compression Using a Five-Fold Helically Corrugated Waveguide. IEEE Transactions on Microwave Theory and Techniques, 2015, 63, 1090-1096.	2.9	31

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19	CW Ka-Band Kilowatt-Level Helical-Waveguide Gyro-TWT. IEEE Transactions on Electron Devices, 2012, 59, 2250-2255.	1.6	27
20	Microwave System for Feeding and Extracting Power To and From a Gyrotron Traveling-Wave Tube Through One Window. IEEE Electron Device Letters, 2014, 35, 789-791.	2.2	26
21	Effective coupling of cyclotron autoresonance maser and "gyrotron"-modes on a phase-synchronized electron beam. Physical Review E, 2000, 62, 4207-4215.	0.8	25
22	Generation of ultra-short quasi-unipolar electromagnetic pulses from quasi-planar electron bunches. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2001, 475, 436-440.	0.7	23
23	Mechanisms of amplification of ultrashort electromagnetic pulses in gyrotron traveling wave tube with helically corrugated waveguide. Physics of Plasmas, 2015, 22, .	0.7	22
24	Comparative analysis of electron beam quality on the operation of a FEM with axial guide magnetic field and a CARM. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1998, 407, 107-111.	0.7	21
25	Sources of Coherent Terahertz Radiation. AIP Conference Proceedings, 2006, , .	0.3	21
26	Two-dimensional realization of a method for synthesis of waveguide converters. Radiophysics and Quantum Electronics, 2006, 49, 961-967.	0.1	20
27	Generation of trains of ultrashort microwave pulses by two coupled helical gyro-TWTs operating in regimes of amplification and nonlinear absorption. Physics of Plasmas, 2017, 24, .	0.7	20
28	Proof-of-Principle Experiment on High-Power Gyrotron Traveling-Wave Tube With a Microwave System for Driving and Extracting Power Through One Window. IEEE Microwave and Wireless Components Letters, 2016, 26, 288-290.	2.0	19
29	Analysis of Dispersion and Losses in Helically Corrugated Metallic Waveguides by 2-D Vector Finite-Element Method. IEEE Transactions on Microwave Theory and Techniques, 2011, 59, 2189-2196.	2.9	18
30	Cyclotron Resonance Maser With Zigzag Quasi-Optical Transmission Line: Concept and Modeling. IEEE Transactions on Electron Devices, 2021, 68, 5846-5850.	1.6	17
31	Experimental results on microwave pulse compression using helically corrugated waveguide. Journal of Applied Physics, 2010, 108, 054908.	1.1	13
32	A Helical-Waveguide Gyro-TWT at the Third Cyclotron Harmonic. IEEE Transactions on Electron Devices, 2015, 62, 3387-3392.	1.6	13
33	Effective Co-Generation of Opposite and Forward Waves in Cyclotron-Resonance Masers. Physical Review Letters, 2000, 85, 3424-3427.	2.9	12
34	New Radiation Input/Output Systems for Millimeter-Wave Gyrotron Traveling-Wave Tubes. Radiophysics and Quantum Electronics, 2016, 58, 769-776.	0.1	12
35	Nonlinear Cyclotron Resonance Absorber for a Microwave Subnanosecond Pulse Generator Powered by a Helical-Waveguide Gyrotron Traveling-Wave Tube. Physical Review Applied, 2020, 13, .	1.5	12
36	Experimental study of an FEM with a microwave system of a new type. IEEE Transactions on Plasma Science, 1996, 24, 744-749.	0.6	11

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37	Gyro-TWTs with Helically Corrugated Waveguides: Overview of the Main Principles. , 2019, , .		11
38	Studies of a Gyrotron Traveling-Wave Tube with Helically Corrugated Waveguides at IAP Ras: Results and Prospects. Radiophysics and Quantum Electronics, 2019, 62, 455-466.	0.1	11
39	Microwave source of multigigawatt peak power based on a relativistic backward-wave oscillator and a compressor. Technical Physics, 2011, 56, 269-273.	0.2	10
40	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.	0.1	9
41	Cyclotron autoresonance maser with high Doppler frequency up-conversion. Journal of Infrared, Millimeter and Terahertz Waves, 1992, 13, 1857-1873.	0.6	8
42	Electron-Optical System for a Large-Orbit Gyrotron. Technical Physics, 2005, 50, 1611.	0.2	8
43	High-Power Ka-Band Transmission Line with a Frequency Bandwidth of 1 GHz. Radiophysics and Quantum Electronics, 2016, 58, 777-788.	0.1	8
44	K _a -Band 100-kW Subnanosecond Pulse Generator Mode-Locked by a Nonlinear Cyclotron Resonance Absorber. Physical Review Applied, 2021, 16, .	1.5	8
45	Design of a Powerful and Compact THZ Oscillator. Journal of Infrared, Millimeter and Terahertz Waves, 2007, 27, 1063-1071.	0.6	7
46	Development of gyrotron traveling-wave tubes at IAP and GYCOM. EPJ Web of Conferences, 2017, 149, 04002.	0.1	7
47	Cusp Guns for Helical-Waveguide Gyro-TWTs of a High-Gain High-Power W-Band Amplifier Cascade. Journal of Infrared, Millimeter, and Terahertz Waves, 2018, 39, 447-455.	1.2	7
48	Ultrawideband Millimeter-Wave Oscillators Based on Two Coupled Gyro-TWTs With Helical Waveguide. IEEE Transactions on Electron Devices, 2018, 65, 2334-2339.	1.6	7
49	Multitube Helical-Waveguide Gyrotron Traveling-Wave Amplifier: Device Concept and Electron-Optical System Modeling. IEEE Transactions on Electron Devices, 2020, 67, 3385-3390.	1.6	7
50	Microwave System of Transverse Output for a High-Power W -Band Gyro-TWT. IEEE Transactions on Electron Devices, 2020, 67, 1221-1226.	1.6	7
51	CW Multifrequency K -Band Source Based on a Helical-Waveguide Gyro-TWT With Delayed Feedback. IEEE Transactions on Electron Devices, 2021, 68, 330-335.	1.6	7
52	Klystron-like Cyclotron Amplification of a Transversely Propagating Wave by a Spatially Developed Electron Beam. Electronics (Switzerland), 2022, 11, 323.	1.8	7
53	Recent experiments and simulations on gyro-TWTs with helically corrugated waveguides. , 2016, , .		6
54	Quasi-Optical Orthomode Splitters for Input-Output of a Powerful W -Band Gyro-TWT. IEEE Transactions on Electron Devices, 2018, 65, 4600-4606.	1.6	6

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55	Experimental Observation of Chaotic Generation at 1.5% Spectral Width in a Gyrotron under Large Supercriticality Conditions. Technical Physics Letters, 2019, 45, 511-514.	0.2	6
56	Small-Signal Theory of the Gyro-BWO With the Zigzag Quasi-Optical System. IEEE Transactions on Electron Devices, 2022, 69, 5199-5205.	1.6	6
57	FEM with guiding magnetic field based on simultaneous fundamental and high-harmonic oscillations. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2000, 445, 284-289.	0.7	5
58	Voltage-tuned relativistic backward wave oscillator. Technical Physics Letters, 2010, 36, 140-143.	0.2	5
59	W-band helical-waveguide gyro-TWTs yielding high gain and high output power: Design and simulations. , 2017, , .		5
60	High-Power Tunable Source of Chaotic Radiation Based on a Ka-Band Helical Gyro-BWO. IEEE Electron Device Letters, 2021, 42, 1394-1397.	2.2	5
61	RF Pulse Compression Using Helically Corrugated Waveguides. AIP Conference Proceedings, 2006, , .	0.3	4
62	Gyro-TWTs and Gyro-BWOs with helically corrugated waveguides. , 2007, , .		4
63	Calculation and Optimization of 3D Waveguiding System with Help of Integral Equation Method. Journal of Infrared, Millimeter, and Terahertz Waves, 2009, 30, 319-327.	1.2	4
64	Production of Multi-Gigawatt Sub-Nanosecond Microwave Pulses by the Method of Chirped-Pulse-Amplification. IEEE Electron Device Letters, 2021, 42, 426-429.	2.2	4
65	Gyro-TWT and Gyro-BWO with a Microwave Circuit in the Form of Zigzag Quasi-optical Transmission Line. , 2021, , .		4
66	Atmospheric Propagation Studies and Development of New Instrumentation for Astronomy, Radar, and Telecommunication Applications in the Subterahertz Frequency Range. Applied Sciences (Switzerland), 2022, 12, 5670.	1.3	4
67	A method to form a rectilinear electron beam with small pulsations for free electron masers. Journal of Infrared, Millimeter and Terahertz Waves, 1995, 16, 753-761.	0.6	3
68	Experimental study of a high-current FEM with a broadband microwave system. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1996, 375, 377-380.	0.7	3
69	High-efficiency CARM. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1996, 375, 360-362.	0.7	3
70	Experimental study of CRM with simultaneous excitation of traveling and near-cutoff waves (CARM-gyrotron). IEEE Transactions on Plasma Science, 2001, 29, 609-612.	0.6	3
71	Self-exciting single-cavity gyromultiplier. , 2008, , .		3
72	Terahertz high-harmonic gyrotrons and gyro-multipliers. , 2008, , .		3

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73	Efficiency enhancement of gyrotron based setups for materials processing. , 2009, , .		3
74	Method for calculation of helical-waveguide eigenmodes on the basis of solving the equivalent two-dimensional problem by field expansion in circular-waveguide modes. Radiophysics and Quantum Electronics, 2011, 54, 174-184.	0.1	3
75	An Approach to Thermal Analysis of Helically Corrugated Waveguide Elements of Vacuum Electron Devices. IEEE Transactions on Microwave Theory and Techniques, 2018, 66, 5206-5211.	2.9	3
76	Waveguide Linear-to-Circular Polarization Converter With Cross Polarization Below $\hat{\sim}$ 40 dB Within 16% Band. IEEE Transactions on Microwave Theory and Techniques, 2022, 70, 2108-2114.	2.9	3
77	Multifrequency Radiation at the Kilowatt Power Level in a Continuous Helical Gyroresonance K-Band Backward Wave Oscillator with External Reflections. Technical Physics Letters, 2021, 47, 309-312.	0.2	3
78	Cooperation of traveling and quasi-cutoff waves in a cyclotron-resonance maser. Technical Physics, 2001, 46, 1001-1008.	0.2	2
79	Development of helical-waveguide gyro-TWT and gyro-BWO. , 2009, , .		2
80	Optimization of frequency-modulated pulse compression in a sectioned waveguide with a helically corrugated surface. Technical Physics, 2009, 54, 1655-1662.	0.2	2
81	Thermal analysis of gyro-amplifiers with helically corrugated waveguides. EPJ Web of Conferences, 2017, 149, 04040.	0.1	2
82	Stretching, Amplification, and Compression of Microwave Pulses Using Helically Corrugated Waveguides. Radiophysics and Quantum Electronics, 2019, 62, 472-480.	0.1	2
83	Theoretical explanation and experimental observation of effective cyclotron coupling of traveling and near-cutoff modes on a phase-synchronized electron beam. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2000, 445, 230-235.	0.7	1
84	Progress in studying a self-excited gyromultiplier. , 2009, , .		1
85	Waveguide system for high-power microwave pulse compression. , 2009, , .		1
86	5-fold helically corrugated waveguide dispersion measurements. , 2010, , .		1
87	Radiation input/output system of a broadband W-band gyrotron traveling-wave amplifier. , 2016, , .		1
88	Development of Ultrashort Pulse Generators based on Helical Gyro-TWT with Saturable Cyclotron Resonance Absorber in the Feedback Loop. , 2019, , .		1
89	Microwave-Band Chirped Pulse Amplification Technique Based on a System of Helically Corrugated Waveguides. , 2019, , .		1
90	Cold-Test of Transverse Input-Output Microwave Circuit Components for a High-Power W-Band Gyro-TWT. IEEE Electron Device Letters, 2021, 42, 98-101.	2.2	1

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91	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.	0.7	0
92	New opportunity of efficiency enhancement for FEL-oscillators. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1998, 407, 480-484.	0.7	0
93	10-MW, W-band RF source for advanced accelerator research. AIP Conference Proceedings, 2001, , .	0.3	0
94	High Power RF Generation by Compression of Frequency Modulated Pulses. AIP Conference Proceedings, 2003, , .	0.3	0
95	Helically Corrugated Waveguides for Compression of Frequency Swept Pulses. , 2006, , .		0
96	Calculation of 3-D waveguide structures with EFIE. , 2007, , .		0
97	Compression of frequency-modulated pulses from a relativistic BWO up to multigigawatt powers. , 2007, , .		0
98	Calculation and optimization of three-dimensional waveguide systems by the integral equation method. Radiophysics and Quantum Electronics, 2008, 51, 671-680.	0.1	0
99	Helically corrugated waveguides for compression of microwave pulses. , 2008, , .		0
100	X-band pulse compression using a five-fold helically corrugated waveguide. , 2012, , .		0
101	Pulse compression using a five-fold helically corrugated waveguide. , 2012, , .		0
102	Project of a third harmonic W-band gyroamplifier. , 2015, , .		0
103	Design and experiments of a five-fold helically corrugated waveguide for microwave pulse compression. , 2015, , .		0
104	Experimental investigation of a system of input/output power flows separation for a broadband millimeter-wave gyro-TWT. , 2016, , .		0
105	Periodic GW level microwave pulses in X-band from a combination of a relativistic backward wave oscillator and a helical waveguide compressor. , 2017, , .		0
106	Passive mode-locking and generation of ultrashort pulses in electron oscillators with saturable absorber in the feedback loop. , 2017, , .		0
107	Mode-locked electron oscillator based on two coupled helical gyro-TWTs. , 2017, , .		0
108	Ultrashort pulse generation based on two coupled helical gyro-TWTs. EPJ Web of Conferences, 2017, 149, 04041.	0.1	0

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109	Wideband chaotic generation in K-band helical waveguide gyro-TWT with external reflections. , 2019, , .		0
110	Frequency modulation, amplification and compression of microwave pulses in a system with helically corrugated waveguides as a dispersive elements. Journal of Physics: Conference Series, 2019, 1400, 044006.	0.3	0
111	Microwave System for Input-Output Radiation of the Two-Cascade Gyro-TWT at 3-mm Wavelength. , 2020, , .		0
112	Microwave CPA-Amplifier with Multi-Gigawatt Ultrashort Output Pulses. , 2021, , .		0
113	Klystron-like Cyclotron Amplification of Transversely Propagating Wave by a Spatially-developed Electron Beam. , 2021, , .		0
114	A Tunable Ka-Band Multifrequency Radiation Source Based on a Pulsed Gyro-Backward Wave Oscillator. Technical Physics Letters, 0, , .	0.2	0