Sergey Samsonov

List of Publications by Citations

89 papers	1,259 citations	19 h-index	32 g-index
114 ext. papers	1,712 ext. citations	2.3 avg, IF	4 L-index

#	Paper	IF	Citations
89	Gyrotron Traveling Wave Amplifier with a Helical Interaction Waveguide. *Physical Review Letters*, **1998**, 81, 5680-5683	7.4	139
88	High-gain wide-band gyrotron traveling wave amplifier with a helically corrugated waveguide. *Physical Review Letters*, **2000**, 84, 2746-9	7.4	137
87	Ka-Band Gyrotron Traveling-Wave Tubes With the Highest Continuous-Wave and Average Power. *IEEE Transactions on Electron Devices*, **2014**, 61, 4264-4267	2.9	78
86	Compression of frequency-modulated pulses using helically corrugated waveguides and its potential for generating multigigawatt rf radiation. *Physical Review Letters*, **2004**, 92, 118301	7.4	51
85	Theory and simulations of a gyrotron backward wave oscillator using a helical interaction waveguide. *Applied Physics Letters*, **2006**, 89, 091504	3.4	47
84	Experimental demonstration of high-efficiency cyclotron-autoresonance-maser operation. *Physical Review Letters*, **1995**, 75, 3102-3105	7.4	47
83	High-efficiency wideband gyro-TWTs and gyro-BWOs with helically corrugated waveguides. *Radiophysics and Quantum Electronics*, **2007**, 50, 95-107	0.7	46
82	Gyro-BWO experiments using a helical interaction waveguide. *IEEE Transactions on Electron Devices*, **2005**, 52, 839-844	2.9	44
81	Dispersion of helically corrugated waveguides: analytical, numerical, and experimental study. *Physical Review E*, **2004**, 70, 046402	2.4	38
80	Frequency-tunable CW gyro-BWO with a helically rippled operating waveguide. *IEEE Transactions on Plasma Science*, **2004**, 32, 884-889	1.3	32
79	Resonant reflectors for free electron masers. *Journal of Infrared, Millimeter and Terahertz Waves*, **1995**, 16, 745-752		30
78	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, 110703	2.1	29
77	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	2.9	28
76	Submillimeter-wave large-orbit gyrotron. *Radiophysics and Quantum Electronics*, **2005**, 48, 731-736	0.7	28
75	Experimental study of a fourth-harmonic gyromultiplier. *Physics of Plasmas*, **2009**, 16, 070701	2.1	25
74	Effective coupling of cyclotron autoresonance maser and "gyrotron" modes on a phase-synchronized electron beam. *Physical Review E*, **2000**, 62, 4207-15	2.4	23
73	CW Ka-Band Kilowatt-Level Helical-Waveguide Gyro-TWT. *IEEE Transactions on Electron Devices*, **2012**, 59, 2250-2255	2.9	20

72	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	1.2	20
71	Microwave pulse compression using a helically corrugated waveguide. *IEEE Transactions on Plasma Science*, **2005**, 33, 661-667	1.3	20
70	CW Operation of a W-Band High-Gain Helical-Waveguide Gyrotron Traveling-Wave Tube. *IEEE Electron Device Letters*, **2020**, 41, 773-776	4.4	19
69	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	1.2	19
68	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	4.4	18
67	Sources of Coherent Terahertz Radiation. *AIP Conference Proceedings*, **2006**,	0	17
66	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, 023103	2.1	16
65	Experimental Study of Microwave Pulse Compression Using a Five-Fold Helically Corrugated Waveguide. *IEEE Transactions on Microwave Theory and Techniques*, **2015**, 63, 1090-1096	4.1	16
64	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	2.6	16
63	Two-dimensional realization of a method for synthesis of waveguide converters. *Radiophysics and Quantum Electronics*, **2006**, 49, 961-967	0.7	16
62	Mechanisms of amplification of ultrashort electromagnetic pulses in gyrotron traveling wave tube with helically corrugated waveguide. *Physics of Plasmas*, **2015**, 22, 113111	2.1	14
61	A Helical-Waveguide Gyro-TWT at the Third Cyclotron Harmonic. *IEEE Transactions on Electron Devices*, **2015**, 62, 3387-3392	2.9	12
60	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	4.1	12
59	Effective Co-generation of opposite and forward waves in cyclotron-resonance masers. *Physical Review Letters*, **2000**, 85, 3424-7	7.4	11
58	Microwave source of multigigawatt peak power based on a relativistic backward-wave oscillator and a compressor. *Technical Physics*, **2011**, 56, 269-273	0.5	10
57	Experimental study of an FEM with a microwave system of a new type. *IEEE Transactions on Plasma Science*, **1996**, 24, 744-749	1.3	10
56	Gyro-TWTs with Helically Corrugated Waveguides: Overview of the Main Principles **2019**,		8
55	Experimental results on microwave pulse compression using helically corrugated waveguide. *Journal of Applied Physics*, **2010**, 108, 054908	2.5	8

54	Design of a Powerful and Compact THZ Oscillator. *Journal of Infrared, Millimeter and Terahertz Waves*, **2007**, 27, 1063-1071		7
53	Cyclotron autoresonance maser with high Doppler frequency up-conversion. *Journal of Infrared, Millimeter and Terahertz Waves*, **1992**, 13, 1857-1873		7
52	New Radiation Input/Output Systems for Millimeter-Wave Gyrotron Traveling-Wave Tubes. *Radiophysics and Quantum Electronics*, **2016**, 58, 769-776	0.7	7
51	Development of gyrotron traveling-wave tubes at IAP and GYCOM. *EPJ Web of Conferences*, **2017**, 149, 04002	0.3	6
50	. *IEEE Transactions on Electron Devices*, **2018**, 65, 2334-2339	2.9	6
49	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	0.7	6
48	Electron-optical system for a large-orbit gyrotron. *Technical Physics*, **2005**, 50, 1611	0.5	6
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	2.2	5
46	Voltage-tuned relativistic backward wave oscillator. *Technical Physics Letters*, **2010**, 36, 140-143	0.7	5
45	Recent experiments and simulations on gyro-TWTs with helically corrugated waveguides **2016**,		5
44	High-Power Ka-Band Transmission Line with a Frequency Bandwidth of 1 GHZ. *Radiophysics and Quantum Electronics*, **2016**, 58, 777-788	0.7	5
43	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	0.7	5
42	Experimental Observation of Chaotic Generation at 1.5% Spectral Width in a Gyrotron under Large Supercriticality Conditions. *Technical Physics Letters*, **2019**, 45, 511-514	0.7	4
41	Multitube Helical-Waveguide Gyrotron Traveling-Wave Amplifier: Device Concept and Electron-Optical System Modeling. *IEEE Transactions on Electron Devices*, **2020**, 67, 3385-3390	2.9	4
40	W-band helical-waveguide gyro-TWTs yielding high gain and high output power: Design and simulations **2017**,		4
39	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	1.2	4
38	Nonlinear Cyclotron Resonance Absorber for a Microwave Subnanosecond Pulse Generator Powered by a Helical-Waveguide Gyrotron Traveling-Wave Tube. *Physical Review Applied*, **2020**, 13,	4.3	4
37	Quasi-Optical Orthomode Splitters for Input Output of a Powerful ${W}$ -Band Gyro-TWT. *IEEE Transactions on Electron Devices*, **2018**, 65, 4600-4606	2.9	4

36	Microwave System of Transverse Output for a High-Power ${W}$ -Band Gyro-TWT. *IEEE Transactions on Electron Devices*, **2020**, 67, 1221-1226	2.9	3
35	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	0.7	3
34	Efficiency enhancement of gyrotron based setups for materials processing **2009**,		3
33	RF Pulse Compression Using Helically Corrugated Waveguides. *AIP Conference Proceedings*, **2006**,	0	3
32	A method to from a rectilinear electron beam with small pulsations for free electron masers. *Journal of Infrared, Millimeter and Terahertz Waves*, **1995**, 16, 753-761		3
31	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	1.2	3
30	High-efficiency CARM. *Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, **1996**, 375, 360-362	1.2	3
29	CW Multifrequency K-Band Source Based on a Helical-Waveguide Gyro-TWT With Delayed Feedback. *IEEE Transactions on Electron Devices*, **2021**, 68, 330-335	2.9	3
28	Cyclotron Resonance Maser With Zigzag Quasi-Optical Transmission Line: Concept and Modeling. *IEEE Transactions on Electron Devices*, **2021**, 1-5	2.9	3
27	Thermal analysis of gyro-amplifiers with helically corrugated waveguides. *EPJ Web of Conferences*, **2017**, 149, 04040	0.3	2
26	Development of helical-waveguide gyro-TWT and gyro-BWO **2009**,		2
25	Calculation and Optimization of 3D Waveguiding System with Help of Integral Equation Method. *Journal of Infrared, Millimeter, and Terahertz Waves*, **2009**, 30, 319-327	2.2	2
24	Optimization of frequency-modulated pulse compression in a sectioned waveguide with a helically corrugated surface. *Technical Physics*, **2009**, 54, 1655-1662	0.5	2
23	Terahertz high-harmonic gyrotrons and gyro-multipliers **2008**,		2
22	Gyro-TWTs and Gyro-BWOs with helically corrugated waveguides **2007**,		2
21	Cooperation of traveling and quasi-cutoff waves in a cyclotron-resonance maser. *Technical Physics*, **2001**, 46, 1001-1008	0.5	2
20	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	2
19	Production of Multi-Gigawatt Sub-Nanosecond Microwave Pulses by the Method of Chirped-Pulse-Amplification. *IEEE Electron Device Letters*, **2021**, 42, 426-429	4.4	2

18	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	4.1	2
17	Development of Ultrashort Pulse Generators based on Helical Gyro-TWT with Saturable Cyclotron Resonance Absorber in the Feedback Loop **2019**,		1
16	Progress in studying a self-excited gyromultiplier **2009**,		1
15	**2009**,		1
14	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	1.2	1
13	Klystron-like Cyclotron Amplification of a Transversely Propagating Wave by a Spatially Developed Electron Beam. *Electronics (Switzerland)*, **2022**, 11, 323	2.6	1
12	Radiation input/output system of a broadband W-band gyrotron traveling-wave amplifier **2016**,		1
11	Stretching, Amplification, and Compression of Microwave Pulses Using Helically Corrugated Waveguides. *Radiophysics and Quantum Electronics*, **2019**, 62, 472-480	0.7	1
10	High-Power Tunable Source of Chaotic Radiation Based on a Ka-Band Helical Gyro-BWO. *IEEE Electron Device Letters*, **2021**, 42, 1394-1397	4.4	1
9	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	0.7	1
8	Waveguide Linear-to-Circular Polarization Converter With Cross Polarization Below -40 dB Within 16% Band. *IEEE Transactions on Microwave Theory and Techniques*, **2022**, 1-1	4.1	0
7	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	2.6	0
6	Ultrashort pulse generation based on two coupled helical gyro-TWTs. *EPJ Web of Conferences*, **2017** , 149, 04041	0.3	
5	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	1.2	
4	Calculation and optimization of three-dimensional waveguide systems by the integral equation method. *Radiophysics and Quantum Electronics*, **2008**, 51, 671-680	0.7	
3	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	1.2	
2	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	
1	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	4.4	