

Ioannis Gr Pagonakis

List of Publications by Year in descending order

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117
papers

1,164
citations

394421

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117
all docs

117
docs citations

117
times ranked

466
citing authors

#	ARTICLE	IF	CITATIONS
1	EURIDICE: A code-package for gyrotron interaction simulations and cavity design. EPJ Web of Conferences, 2012, 32, 04016.	0.3	80
2	A New Concept for the Collection of an Electron Beam Configured by an Externally Applied Axial Magnetic Field. IEEE Transactions on Plasma Science, 2008, 36, 469-480.	1.3	59
3	Electron trapping mechanisms in magnetron injection guns. Physics of Plasmas, 2016, 23, .	1.9	42
4	From Series Production of Gyrotrons for W7-X Toward EU-1 MW Gyrotrons for ITER. IEEE Transactions on Plasma Science, 2014, 42, 1135-1144.	1.3	41
5	Design considerations for future DEMO gyrotrons: A review on related gyrotron activities within EUROfusion. Fusion Engineering and Design, 2017, 123, 241-246.	1.9	37
6	An Inverse Magnetron Injection Gun for the KIT 2-MW Coaxial-Cavity Gyrotron. IEEE Transactions on Electron Devices, 2016, 63, 2104-2109.	3.0	34
7	Status of the development of the EU 170 GHz/1 MW/CW gyrotron. Fusion Engineering and Design, 2015, 96-97, 149-154.	1.9	33
8	Influence of emitter ring manufacturing tolerances on electron beam quality of high power gyrotrons. Physics of Plasmas, 2016, 23, .	1.9	28
9	Systematic cavity design approach for a multi-frequency gyrotron for DEMO and study of its RF behavior. Physics of Plasmas, 2016, 23, .	1.9	28
10	Multistage depressed collector conceptual design for thin magnetically confined electron beams. Physics of Plasmas, 2016, 23, .	1.9	27
11	High-Efficiency Quasi-Optical Mode Converter for a 1-MW $\text{TE}_{32,9}$ -Mode Gyrotron. IEEE Transactions on Plasma Science, 2013, 41, 2748-2753.	1.3	24
12	KIT coaxial gyrotron development: from ITER toward DEMO. International Journal of Microwave and Wireless Technologies, 2018, 10, 547-555.	1.9	24
13	CW Experiments With the EU 1-MW, 170-GHz Industrial Prototype Gyrotron for ITER at KIT. IEEE Transactions on Electron Devices, 2017, 64, 3885-3892.	3.0	23
14	Status and future development of Heating and Current Drive for the EU DEMO. Fusion Engineering and Design, 2022, 180, 113159.	1.9	22
15	Experimental results and recent developments on the EU 2 MW 170 GHz coaxial cavity gyrotron for ITER. EPJ Web of Conferences, 2012, 32, 04009.	0.3	21
16	Frequency-Based Investigation of Charge Neutralization Processes and Thermal Cavity Expansion in Gyrotrons. Journal of Infrared, Millimeter, and Terahertz Waves, 2015, 36, 797-818.	2.2	21
17	Conceptual design of the EU DEMO EC-system: main developments and R&D achievements. Nuclear Fusion, 2017, 57, 116009.	3.5	21
18	2 MW, 170 GHz coaxial-cavity short-pulse gyrotron — Single stage depressed collector operation. , 2014, , .		19

#	ARTICLE	IF	CITATIONS
19	Experimental verification of the European 1 MW, 170 GHz industrial CW prototype gyrotron for ITER. Fusion Engineering and Design, 2017, 123, 490-494.	1.9	19
20	Conceptual designs of $E \times B$ multistage depressed collectors for gyrotrons. Physics of Plasmas, 2017, 24, .	1.9	19
21	Gyrotron multistage depressed collector based on $E \times B$ drift concept using azimuthal electric field. I. Basic design. Physics of Plasmas, 2018, 25, .	1.9	19
22	EU DEMO EC system preliminary conceptual design. Fusion Engineering and Design, 2018, 136, 1173-1177.	1.9	18
23	Overview of recent gyrotron R&D towards DEMO within EUROfusion Work Package Heating and Current Drive. Nuclear Fusion, 2019, 59, 066014.	3.5	18
24	Numerical Studies on the Influence of Cavity Thermal Expansion on the Performance of a High-Power Gyrotron. IEEE Transactions on Electron Devices, 2018, 65, 2308-2315.	3.0	17
25	2 MW, 170 GHz coaxial-cavity short-pulse gyrotron - Investigations on electron beam instabilities and parasitic oscillations. , 2013, , .		15
26	Magnetic field profile analysis for gyrotron experimental investigation. Physics of Plasmas, 2017, 24, .	1.9	15
27	Gyrotron development at KIT: FULGOR test facility and gyrotron concepts for DEMO. Fusion Engineering and Design, 2015, 96-97, 589-592.	1.9	14
28	A comparative study on the modeling of dynamic after-cavity interaction in gyrotrons. Physics of Plasmas, 2015, 22, 053106.	1.9	14
29	Recent progress in the upgrade of the TCV EC-system with two 1MW/2s dual-frequency (84/126GHz) gyrotrons. EPJ Web of Conferences, 2017, 157, 03001.	0.3	14
30	Recent experimental results of the European 1 MW, 170 GHz short-pulse gyrotron prototype for ITER. , 2015, , .		13
31	Towards a 1.5 MW, 140 GHz gyrotron for the upgraded ECRH system at W7-X. Fusion Engineering and Design, 2021, 164, 112173.	1.9	12
32	Development and Experimental Verification of an XY-Table for the Optimization of the Alignment of High-Power Gyrotrons. IEEE Transactions on Electron Devices, 2019, 66, 1954-1959.	3.0	11
33	Recent experiments with the European 1MW, 170GHz industrial CW and short-pulse gyrotrons for ITER. Fusion Engineering and Design, 2019, 146, 349-352.	1.9	11
34	Design and 3-D Simulations of a 10-kW/28-GHz Gyrotron With a Segmented Emitter Based on Controlled Porosity-Reservoir Cathodes. IEEE Transactions on Plasma Science, 2013, 41, 2717-2723.	1.3	10
35	Influence of emitter surface roughness on high power fusion gyrotron operation. Nuclear Fusion, 2016, 56, 026002.	3.5	10
36	Gyrotron multistage depressed collector based on $E \times B$ drift concept using azimuthal electric field. II: Upgraded designs. Physics of Plasmas, 2019, 26, .	1.9	10

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37	Triode magnetron injection gun for the KIT 2 MW 170 GHz coaxial cavity gyrotron. Physics of Plasmas, 2020, 27, .	1.9	10
38	Generation of 1.5 MWâ€“140 GHz Pulses With the Modular Pre-Prototype Gyrotron for W7-X. IEEE Electron Device Letters, 2021, 42, 939-942.	3.9	10
39	Experimental Testing of the European TH1509U 170-GHz 1-MW CW Industrial Gyrotronâ€”Long Pulse Operation. IEEE Electron Device Letters, 2022, 43, 623-626.	3.9	10
40	Multi-frequency operation of DEMO gyrotron with realistic electron beam parameters. , 2015, , .		9
41	Manufacturing and tests of the European 1 MW, 170 GHz CW gyrotron prototype for ITER. , 2016, , .		9
42	Evaluation and Influence of Gyrotron Cathode Emission Inhomogeneity. IEEE Transactions on Electron Devices, 2017, 64, 1315-1322.	3.0	9
43	Tolerance Studies on an Inverse Magnetron Injection Gun for a 2-MW 170-GHz Coaxial-Cavity Gyrotron. IEEE Transactions on Electron Devices, 2017, 64, 3870-3876.	3.0	9
44	Comparison between controlled non-adiabatic and $\langle i \rangle E \tilde{A} - B \langle i \rangle$ concepts for gyrotron multistage depressed collectors. EPJ Web of Conferences, 2017, 149, 04005.	0.3	9
45	Gun design criteria for the refurbishment of the first prototype of the EU 170GHz/2MW/CW coaxial cavity gyrotron for ITER. , 2009, , .		8
46	Interaction circuit design and RF behavior of a 236 GHz gyrotron for DEMO. , 2015, , .		8
47	New trends of gyrotron development at KIT: An overview on recent investigations. Fusion Engineering and Design, 2019, 146, 341-344.	1.9	8
48	Design of the EU-1MW gyrotron for ITER. , 2013, , .		7
49	Preliminary studies on Multistage Depressed Collectors for fusion gyrotrons. , 2016, , .		7
50	Theoretical investigation on possible operation of a 140 GHz 1 MW gyrotron at 175 GHz for CTS plasma diagnostics at W7-X. Physics of Plasmas, 2020, 27, .	1.9	7
51	Magnetron injection gun for a 238 GHz 2 MW coaxial-cavity gyrotron. , 2015, , .		6
52	Proposal of an inverse magnetron injection gun for future hollow-cylindrical-cavity high power gyrotrons. , 2016, , .		6
53	Direct Voltage Depression Calculation of Arbitrary Electron Beams in Misaligned Coaxial Gyrotron Cavities. IEEE Transactions on Electron Devices, 2016, 63, 3740-3746.	3.0	6
54	Experimental results and outlook of the 2 MW 170 GHz coaxial-cavity gyrotron towards long pulse operation. , 2016, , .		6

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55	Novel multistage depressed collector for high power fusion gyrotrons based on an E \tilde{A} -B drift concept. , 2017, , .		6
56	KIT coaxial gyrotron development: From ITER towards DEMO. , 2017, , .		6
57	Studies towards an upgraded 1.5 MW gyrotron for W7-X. EPJ Web of Conferences, 2019, 203, 04003.	0.3	6
58	Overview on recent progress in magnetron injection gun theory and design for high power gyrotrons. EPJ Web of Conferences, 2019, 203, 04011.	0.3	6
59	Coaxial multistage depressed collector design for high power gyrotrons based on E \tilde{A} -B concept. Physics of Plasmas, 2019, 26, .	1.9	6
60	Large Power Increase Enabled by High-Q Diamond-Loaded Cavities for Terahertz Gyrotrons. Journal of Infrared, Millimeter, and Terahertz Waves, 2021, 42, 863-877.	2.2	6
61	Parameterization technique for the preliminary gun design of the EU 170GHz 1MW conventional cavity gyrotron for ITER. , 2008, , .		5
62	Study of the ITER Stray Magnetic Field Effect on the EU 170-GHz 2-MW Coaxial Cavity Gyrotron. IEEE Transactions on Plasma Science, 2012, 40, 1945-1956.	1.3	5
63	Collector Loading of the 2-MW, 170-GHz Gyrotron for ITER in Case of Beam Power Modulation. IEEE Transactions on Plasma Science, 2013, 41, 2742-2747.	1.3	5
64	Multi-frequency design of a 2 MW coaxial-cavity gyrotron for DEMO. , 2015, , .		5
65	A design proposal for an optimized inverse Magnetron Injection Gun for the KIT 2 MW / 170 GHz modular coaxial cavity gyrotron. , 2015, , .		5
66	Automated mode recovery for gyrotrons demonstrated at Wendelstein 7-X. Fusion Engineering and Design, 2019, 148, 111258.	1.9	5
67	THALES TH1507 140 GHz 1 MW CW Gyrotron for W7-X Stellarator. , 2019, , .		5
68	Report of recent experiments with the European 1 MW, 170 GHz CW and SP prototype gyrotrons for ITER. EPJ Web of Conferences, 2019, 203, 04006.	0.3	5
69	EU gyrotron development for ITER: Recent achievements and experimental results of the coaxial 2 MW gyrotron. , 2012, , .		4
70	2 MW Coaxial-Cavity Pre-Prototype Gyrotron for ITER - recent experiments with the modified gyrotron setup -. , 2012, , .		4
71	Preliminary study on the effects of emitter surface roughness on gyrotron electron beam quality. , 2013, , .		4
72	Numerical investigations on the effects of electron beam misalignment on beam-wave interaction in a high-power coaxial gyrotron. , 2013, , .		4

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73	Dual-frequency, 126/84 GHz, 1 MW gyrotron for the upgrade of the TCV EC-system. , 2015, , .		4
74	RF Behavior and Launcher Design for a Fast Frequency Step-tunable 236 GHz Gyrotron for DEMO. Frequenz, 2017, 71, .	0.9	4
75	Numerical Investigation on Spent Beam Deceleration Schemes for Depressed Collector of a High-Power Gyrotron. IEEE Transactions on Electron Devices, 2018, 65, 2321-2326.	3.0	4
76	Theoretical Study on the Operation of the EU/KIT TE34,19-Mode Coaxial-Cavity Gyrotron at 170/204/238 GHz. EPJ Web of Conferences, 2019, 203, 04014.	0.3	4
77	Numerical study of the effects of the magnetic axis misalignment in the EU coaxial cavity gyrotron for ITER. , 2012, , .		3
78	Development of advanced gyrotrons. , 2014, , .		3
79	Gyrotronâ€Forschung und â€Entwicklung am KIT. Vakuum in Forschung Und Praxis, 2016, 28, 21-27.	0.1	3
80	Simulations of the experimental operation of the EU 170 GHz, 1 MW short-pulse prototype gyrotron for ITER. , 2016, , .		3
81	3D Simulation of a realistic Multistage Depressed Collector for high-power fusion gyrotrons. , 2016, , .		3
82	A fast frequency step-tunable 236 GHz gyrotron design for DEMO. , 2016, , .		3
83	Study of the Influence of Stray Magnetic Fields on the Operation of the European Gyrotron for ITER. IEEE Transactions on Electron Devices, 2017, 64, 3421-3428.	3.0	3
84	Design and manufacturing process for the KIT 2-MW 170-GHz coaxial-cavity longer-pulse gyrotron. EPJ Web of Conferences, 2017, 149, 04015.	0.3	3
85	European research activities towards a future DEMO gyrotron. EPJ Web of Conferences, 2017, 149, 04007.	0.3	3
86	KIT in-house manufacturing and first operation of a 170 GHz 2 MW longer-pulse coaxial-cavity pre-prototype gyrotron. , 2018, , .		3
87	2018 Status on KIT Gyrotron Activities. EPJ Web of Conferences, 2018, 187, 01009.	0.3	3
88	Current Status of the KIT Coaxial-Cavity Long-Pulse Gyrotron and its Key Components. EPJ Web of Conferences, 2018, 187, 01028.	0.3	3
89	Recent Status and Future Prospects of Coaxial-Cavity Gyrotron Development at KIT. EPJ Web of Conferences, 2019, 203, 04005.	0.3	3
90	High power gyrotron development at KIT for ECH&CD of fusion plasmas. , 2012, , .		2

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91	Separation of thermal expansion and beam charge neutralization effects in high power 140 GHz CW gyrotrons. , 2014, , .		2
92	From W7-X towards ITER and beyond: Status and progress in EU fusion gyrotron developments. , 2015, , .		2
93	Investigation on mode eigenvalue limits for stable 236 GHz, 1 MW-class gyrotron operation. , 2016, , .		2
94	Multistage depressed collector design approach for gyrotron. , 2016, , .		2
95	Progress on the upgrade of the TCV EC-system with two 1MW dual-frequency gyrotrons. , 2016, , .		2
96	Choice of material composition for a high-performance inverted Magnetron Injection Gun. , 2016, , .		2
97	Metrology techniques for the verification of the alignment of the EU gyrotron prototype for ITER. EPJ Web of Conferences, 2019, 203, 04015.	0.3	2
98	On the effect of the approximations used in gyrotron interaction calculations. , 2009, , .		1
99	Status of the EU 170 GHz/2 MW/CW coaxial cavity gyrotron for ITER: The dummy gun experiment. , 2010, , .		1
100	Analysis of mode competition in 10kW/28GHz gyrotron. , 2013, , .		1
101	Evaluation of gyrotron cathode emission inhomogeneity from current-voltage characteristics. , 2015, , .		1
102	Design of E Å– B multistage depressed collector concepts for high-power fusion gyrotrons. , 2017, , .		1
103	Recent Trends in Fusion Gyrotron Development at KIT. EPJ Web of Conferences, 2017, 157, 03017.	0.3	1
104	An Improved Diagnostic Device for Magnetron Injection Guns of High-Power Gyrotrons. IEEE Transactions on Electron Devices, 2018, 65, 2294-2300.	3.0	1
105	Progress in the development of a multistage depressed collector system for high power gyrotrons. , 2018, , .		1
106	Operating the KIT 170 GHz 2 MW Coaxial-Cavity Gyrotron at 204 GHz: Performance Expectations and First Cold Test of the Quasi-Optical System. , 2019, , .		1
107	DEMO-Relevant Gyrotron Research at KIT. , 2019, , .		1
108	Towards Advanced Fusion Gyrotrons: 2018 Update on Activities within EUROfusion. EPJ Web of Conferences, 2019, 203, 04007.	0.3	1

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109	Mechanical Design Study for Gyrotron E _A –B Drift Two-Stage Depressed Collector. , 2020, , .		1
110	Performance Expectation and Preparation of the First Experimental Campaign of the KIT 2 MW 170/204 GHz Coaxial-Cavity Gyrotron. , 2021, , .		1
111	Mechanical Design of the Short Pulse E _A –B Drift Two-Stage Depressed Collector Prototype for High Power Gyrotron. , 2021, , .		1
112	Mode content analysis of the RF output of a gyrotron based on the astigmatic Gaussian beam of higher order. , 2009, , .		0
113	Calculation of stray magnetic field effects on the operation of the ITER electron cyclotron system. , 2011, , .		0
114	Design of a 10kW/28GHz gyrotron with a segmented emitter using controlled-porosity reservoir cathodes. , 2012, , .		0
115	Thermomechanical influence of gyrotron power modulation on the collector of a 2 MW, 170 GHz gyrotron. , 2013, , .		0
116	Impact of emitter ring manufacturing tolerances on electron beam quality in high power gyrotrons. , 2016, , .		0
117	Experimental Study of the Emission Properties of Magnetron Injection Guns for High-Power Gyrotrons. , 2019, , .		0