Zhaoyun Duan

List of Publications by Citations

126 papers	1,204 citations	17 h-index	28 g-index
221 ext. papers	1,622 ext. citations	2.5 avg, IF	4.22 L-index

#	Paper	IF	Citations
126	Observation of the reversed Cherenkov radiation. *Nature Communications*, **2017**, 8, 14901	17.4	62
125	Sine Waveguide for 0.22-THz Traveling-Wave Tube. *IEEE Electron Device Letters*, **2011**, 32, 1152-1154	4.4	59
124	W-Band 1-kW Staggered Double-Vane Traveling-Wave Tube. *IEEE Transactions on Electron Devices*, **2012**, 59, 496-503	2.9	58
123	Study on Wideband Sheet Beam Traveling Wave Tube Based on Staggered Double Vane Slow Wave Structure. *IEEE Transactions on Plasma Science*, **2014**, 42, 3996-4003	1.3	43
122	A 140-GHz Two-Beam Overmoded Folded-Waveguide Traveling-Wave Tube. *IEEE Transactions on Plasma Science*, **2011**, 39, 847-851	1.3	43
121	Cherenkov radiation in anisotropic double-negative metamaterials. *Optics Express*, **2008**, 16, 18479-84	3.3	42
120	Sub-wavelength waveguide loaded by a complementary electric metamaterial for vacuum electron devices. *Physics of Plasmas*, **2014**, 21, 103301	2.1	38
119	Symmetric Double V-Shaped Microstrip Meander-Line Slow-Wave Structure for W-Band Traveling-Wave Tube. *IEEE Transactions on Electron Devices*, **2012**, 59, 1551-1557	2.9	38
118	High-Power Millimeter-Wave BWO Driven by Sheet Electron Beam. *IEEE Transactions on Electron Devices*, **2013**, 60, 471-477	2.9	35
117	Enhanced reversed Cherenkov radiation in a waveguide with double-negative metamaterials. *Optics Express*, **2011**, 19, 13825-30	3.3	34
116	Reversed Cherenkov radiation in a waveguide filled with anisotropic double-negative metamaterials. *Journal of Applied Physics*, **2008**, 104, 063303	2.5	32
115	Study of a Log-Periodic Slow Wave Structure for Ka-band Radial Sheet Beam Traveling Wave Tube. *IEEE Transactions on Plasma Science*, **2013**, 41, 2277-2282	1.3	31
114	All-metal metamaterial slow-wave structure for high-power sources with high efficiency. *Applied Physics Letters*, **2015**, 107, 153502	3.4	30
113	S -Band High-Efficiency Metamaterial Microwave Sources. *IEEE Transactions on Electron Devices*, **2016**, 63, 3747-3752	2.9	25
112	Metamaterial-Inspired Vacuum Electron Devices and Accelerators. *IEEE Transactions on Electron Devices*, **2019**, 66, 207-218	2.9	23
111	Theoretical and Experimental Research on a Novel Small Tunable PCM System in Staggered Double Vane TWT. *IEEE Transactions on Electron Devices*, **2015**, 62, 4258-4264	2.9	22
110	High Isolation Millimeter-Wave Wideband MIMO Antenna for 5G Communication. *International Journal of Antennas and Propagation*, **2019**, 2019, 1-12	1.2	17

109	Reversed Cherenkov radiation in unbounded anisotropic double-negative metamaterials. *Journal Physics D: Applied Physics*, **2009**, 42, 185102	3	17
108	Double negative-metamaterial based Terahertz radiation excited by a sheet beam bunch. *Physics of Plasmas*, **2013**, 20, 093301	2.1	16
107	EXPERIMENTAL DEMONSTRATION OF DOUBLE-NEGATIVE METAMATERIALS PARTIALLY FILLED IN A CIRCULAR WAVEGUIDE. *Progress in Electromagnetics Research*, **2011**, 121, 215-224	3.8	16
106	Effect of attenuation on backward-wave oscillation start oscillation condition. *IEEE Transactions on Plasma Science*, **2004**, 32, 2184-2188	1.3	16
105	COMPACT UWB MIMO ANTENNA WITH METAMATERIAL-INSPIRED ISOLATOR. *Progress in Electromagnetics Research C*, **2018**, 84, 61-74	0.9	16
104	Novel electromagnetic radiation in a semi-infinite space filled with a double-negative metamaterial. *Physics of Plasmas*, **2012**, 19, 013112	2.1	15
103	Dual Band Metamaterial Cherenkov Oscillator With a Waveguide Coupler. *IEEE Transactions on Electron Devices*, **2017**, 64, 2376-2382	2.9	14
102	Characterization of Metamaterial Slow-Wave Structure Loaded With Complementary Electric Split-Ring Resonators. *IEEE Transactions on Microwave Theory and Techniques*, **2019**, 67, 2238-2246	4.1	14
101	Stacked dual beam electron optical system for THz integrated wideband traveling wave tube. *Physics of Plasmas*, **2019**, 26, 063106	2.1	14
100	Study of High-Power Ka-Band Rectangular Double-Grating Sheet Beam BWO. *IEEE Transactions on Plasma Science*, **2014**, 42, 1502-1508	1.3	14
99	Stable Sheet-Beam Transport in Periodic Nonsymmetric Quadrupole Field. *IEEE Transactions on Plasma Science*, **2010**, 38, 32-38	1.3	14
98	Study on phase velocity tapered microstrip angular log-periodic meander line travelling wave tube. *IET Microwaves, Antennas and Propagation*, **2016**, 10, 902-907	1.6	14
97	Study of the Symmetrical Microstrip Angular Log-Periodic Meander-Line Traveling-Wave Tube. *IEEE Transactions on Plasma Science*, **2016**, 44, 1787-1793	1.3	14
96	. *IEEE Transactions on Plasma Science*, **2019**, 47, 2971-2978	1.3	13
95	Study on the Radial-Sheet-Beam Electron Optical System. *IEEE Transactions on Plasma Science*, **2012** , 40, 3442-3448	1.3	13
94	. *IEEE Transactions on Electron Devices*, **2006**, 53, 903-909	2.9	13
93	Suppression of In-Band Power Holes in Helix Traveling-Wave Tubes. *IEEE Transactions on Electron Devices*, **2011**, 58, 1556-1561	2.9	12
92	Novel S-Band Metamaterial Extended Interaction Klystron. *IEEE Electron Device Letters*, **2020**, 41, 1580-1583	4.1	11

91	Sheet Electron Beam Transport in a Metamaterial-Loaded Waveguide Under the Uniform Magnetic Focusing. *IEEE Transactions on Electron Devices*, **2016**, 63, 2132-2138	2.9	11
90	Study on Radial Sheet Beam Electron Optical System for Miniature Low-Voltage Traveling-Wave Tube. *IEEE Transactions on Electron Devices*, **2017**, 64, 3405-3412	2.9	10
89	Input and Output Couplers for an Oversized Coaxial Relativistic Klystron Amplifier at Ka-Band. *IEEE Transactions on Electron Devices*, **2019**, 66, 2758-2763	2.9	10
88	Some Advances in Theory and Experiment of High-Frequency Vacuum Electron Devices in China. *IEEE Transactions on Plasma Science*, **2019**, 47, 1971-1990	1.3	10
87	A Novel Winding Microstrip Meander-Line Slow-Wave Structure for V-Band TWT. *IEEE Electron Device Letters*, **2013**, 34, 1325-1327	4.4	10
86	Analysis and Simulation of a Multigap Sheet Beam Extended Interaction Relativistic Klystron Amplifier. *IEEE Transactions on Plasma Science*, **2015**, 43, 1862-1870	1.3	10
85	Study of Low- Voltage Radial Convergent Sheet Electron Optical System. *IEEE Transactions on Plasma Science*, **2014**, 42, 1847-1853	1.3	9
84	Impact of attenuator models on computed traveling wave tube performances. *Physics of Plasmas*, **2007**, 14, 093103	2.1	8
83	Design and Cold Test of Dual Beam Azimuthal Supported Angular Log-Periodic Strip-Line Slow Wave Structure. *Journal of Infrared, Millimeter, and Terahertz Waves*, **2020**, 41, 785-795	2.2	8
82	Development of a 140-GHz folded-waveguide traveling-wave tube in a relatively larger circular electron beam tunnel. *Journal of Electromagnetic Waves and Applications*, **2017**, 31, 1914-1923	1.3	7
81	Efficiency Improvement of Broadband Helix Traveling Wave Tubes Using Hybrid Phase Velocity Tapering Model. *Journal of Electromagnetic Waves and Applications*, **2008**, 22, 1013-1023	1.3	7
80	Analysis of the Dispersion Characteristic and Interaction Impedance of a Tape Helix Slow Wave Structure with Novel Supporting Mode. *International Journal of Electronics*, **2004**, 91, 309-318	1.2	7
79	THz electromagnetic radiation driven by intense relativistic electron beam based on ion focus regime. *Physics of Plasmas*, **2016**, 23, 063107	2.1	7
78	Oversized coaxial relativistic extended interaction oscillator with gigawatt-level output at Ka-band. *Physics of Plasmas*, **2019**, 26, 043107	2.1	6
77	Numerical investigation of Cherenkov radiations emitted by an electron beam bunch in isotropic double-negative metamaterials. *Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, **2011**, 654, 475-480	1.2	6
76	Experimental Investigation of an Electron-Optical System for Terahertz Traveling-Wave Tubes. *IEEE Transactions on Electron Devices*, **2021**, 1-7	2.9	6
75	A High-Power Single Rectangular Grating Sheet Electron Beam Traveling-Wave Tube. *IEEE Transactions on Electron Devices*, **2016**, 63, 3262-3269	2.9	6
74	Theory and Experiment of High-Gain Modified Angular Log-Periodic Folded Waveguide Slow Wave Structure. *IEEE Electron Device Letters*, **2020**, 41, 1237-1240	4.4	5

73	Study on single radial sheet beam azimuthal support angular log- periodic strip line Travelling Wave Tube **2018**,		5
72	Investigation on a Ka Band Diamond-Supported Meander-Line SWS. *Journal of Infrared, Millimeter, and Terahertz Waves*, **2020**, 41, 1460-1468	2.2	5
71	STUDY ON SILICON-BASED CONFORMAL MICROSTRIP ANGULAR LOG-PERIODIC MEANDER LINE TRAVELING WAVE TUBE. *Progress in Electromagnetics Research M*, **2018**, 75, 29-37	0.6	5
70	Microfabrication of A Conformal Microstrip Angular Log-periodic Meander Line TWT **2019**,		4
69	Extended interaction oversized coaxial relativistic klystron amplifier with gigawatt-level output at Ka band. *Physics of Plasmas*, **2018**, 25, 043116	2.1	4
68	Study of a miniaturized dual-beam TWT with planar dielectric-rods-support uniform metallic meander line. *Physics of Plasmas*, **2018**, 25, 063113	2.1	4
67	Study on the ridge loaded azimuthal supported angular log-periodic strip meander line slow wave structure **2018**,		4
66	Angular log-periodic meander line traveling wave tube based on quartz substrate **2018**,		4
65	Demonstration of a Ka-Band Oversized Coaxial Multi-Beam Relativistic Klystron Amplifier for High Power Millimeter-Wave Radiation. *IEEE Electron Device Letters*, **2022**, 43, 131-134	4.4	4
64	Study on an X-Band Sheet Beam Meander-Line SWS. *IEEE Transactions on Plasma Science*, **2020**, 48, 4149-4154	1.3	4
63	Ka-band dual sheet beam traveling wave tube using supported planar ring-bar slow wave structure. *Journal of Electromagnetic Waves and Applications*, **2020**, 34, 2236-2250	1.3	4
62	Experimental Advances in 220 GHz Sheet-Beam Traveling-Wave Tubes **2019**,		4
61	3-D Fast Nonlinear Simulation for Beam–Wave Interaction of Sheet Beam Traveling-Wave Tube. *IEEE Transactions on Electron Devices*, **2019**, 66, 1504-1511	2.9	4
60	Compact wideband MIMO antenna for 5G communication **2017**,		3
59	Metamaterials: Steering surface plasmon wakes. *Nature Nanotechnology*, **2015**, 10, 736-7	28.7	3
58	Investigation of angular log-periodic folded groove waveguide slow-wave structure for low voltage Ka-band TWT. *AIP Advances*, **2020**, 10, 035030	1.5	3
57	Investigation of low voltage angular log-periodic folded groove waveguide slow wave structure for G-band TWT **2018**,		3
56	Study of low voltage angular log-periodic slow wave structure for 340 GHz TWT **2019**,		3

55	Study on Ka-band sheet-beam, three-slot-staggered-ladder coupled-cavity traveling-wave tube in a small tunable periodic cusped magnet. *Journal of Electromagnetic Waves and Applications*, **2017**, 31, 1924-1937	1.3	3
54	A D-band backward-wave oscillator based on quasi-parallel-plate slow-wave structure **2015**,		3
53	Optimization of multi-gap extended output cavity for a G-band sheet beam extended interaction klystron **2014**,		3
52	The Conditions for Stable Sheet Electron Beams Transport in Periodic Permanent Magnet Fields. *Journal of Infrared, Millimeter, and Terahertz Waves*, **2010**, 31, 649	2.2	3
51	Effect of Attenuator on BWO Start Oscillation Condition in a Helix Millimeter Wave TWT Under Magnetic Focusing. *Journal of Infrared, Millimeter and Terahertz Waves*, **2004**, 25, 1175-1182		3
50	Compact reversed Cherenkov radiation oscillator with high efficiency. *Applied Physics Letters*, **2022**, 120, 053501	3.4	3
49	Sheet Beam Electron Gun with High Current for 220 GHz TWT **2018**,		3
48	Design of W-band sheet beam travelling wave tubes based on staggered double vane slow wave structure. *Journal of Engineering*, **2018**, 2018, 698-703	0.7	3
47	Oversized coaxial output cavity for Ka band relativistic klystron. *Journal of Engineering*, **2018**, 2018, 678-681	0.7	3
46	Dielectric-Supported Staggered Dual Meander-Line Slow Wave Structure for an E-Band TWT. *IEEE Transactions on Electron Devices*, **2021**, 68, 369-375	2.9	3
45	Study on Ka-Band Sheet Beam Traveling Wave Tube Focused by Closed PCM. *Journal of Infrared, Millimeter, and Terahertz Waves*, **2016**, 37, 561-571	2.2	2
44	High frequency characteristics of a metamaterial slow wave structure **2018**,		2
43	A miniaturized high-gain, high-efficiency metamaterial assited S-band extended interaction klystron **2019**,		2
42	Sheet electron beam formation and transport in the uniform magnetic field **2013**,		2
41	A novel angular log-periodic micro-strip meander-line slow wave structure for low-voltage and wideband traveling wave tube **2013**,		2
40	An arbitrary staggered multi-vane traveling wave tube driven by double sheet electron beams **2015** ,		2
39	DESIGN OF A HIGH POWER, HIGH EFFICIENCY KA-BAND HELIX TRAVELING-WAVE TUBE. *Progress in Electromagnetics Research Letters*, **2013**, 42, 187-199	0.5	2
38	Investigation into the Effect of Dielectric Loss on RF Characteristics of Helical SWS. *Journal of Infrared, Millimeter and Terahertz Waves*, **2008**, 29, 23-34		2

37	Miniature Metamaterial Backward Wave Oscillator With a Coaxial Coupler. *IEEE Transactions on Electron Devices*, **2022**, 1-7	2.9	2
36	A NOVEL SLOTTED HELIX SLOW-WAVE STRUCTURE FOR MILLIMETER-WAVE TRAVELING-WAVE TUBE. *Progress in Electromagnetics Research*, **2013**, 135, 347-362	3.8	2
35	A Novel Scheme for Gain and Power Enhancement of THz TWTs by Extended Interaction Cavities. *IEEE Transactions on Electron Devices*, **2020**, 67, 667-672	2.9	2
34	Improved Model for Beam□Wave Interaction With Ohmic Losses and Reflections of Sheet Beam Traveling Wave Tubes. *IEEE Transactions on Electron Devices*, **2021**, 68, 2977-2983	2.9	2
33	Theoretical investigation of rectangular sheet beam transport in a waveguide loaded by a metamaterial **2016**,		2
32	Design of a two-stage, two-sheet-beam 220-GHz, 70-kW planar relativistic traveling-wave tube. *Journal of Electromagnetic Waves and Applications*, **2016**, 30, 1858-1868	1.3	2
31	Microstrip angular log-periodic slow wave structure on quartz substrate with coaxial input/output coupler. *Journal of Engineering*, **2018**, 2018, 692-697	0.7	2
30	Study of an Attenuator Supporting Meander-Line Slow Wave Structure for Ka-Band TWT. *Electronics (Switzerland)*, **2021**, 10, 2372	2.6	2
29	Metamaterial assisted microwave tubes: a review. *Journal of Electromagnetic Waves and Applications*,1-23	1.3	2
28	Design and Experiment of 4 MW Ka Band Sheet Electron Beam TWT. *Journal of Infrared, Millimeter, and Terahertz Waves*, **2019**, 40, 637-647	2.2	1
27	A non-axisymmetric structure multistage depressed collector for sheet beam VEDs **2017**,		1
26	Simulation study of a W-band broadband extended interaction klystron **2016**,		1
25	Study for 850 GHz sheet beam staggered double-vane traveling wave tube considering the metal loss **2018**,		1
24	Preliminary experimental investigations into an oversized coaxial relativistic klystron amplifier at Ka band **2019**,		1
23	Design of a two-stage Ka-band relativistic sheet electron beam traveling wave tube **2017**,		1
22	Novel vacuum electronic devices based on reversed cherenkov radiation **2015**,		1
21	Ka-band traveling wave tube driving by relativistic sheet electron beam **2015**,		1
20	Reversed Cherenkov radiation in a half space **2011**,		1

19	Simulation of a 94GHz radial spiral waveguide TWT **2012**,		1
18	The Effect of LBS and LBSCA Glass on the Sintering and Microwave Dielectric Properties of Li2(Mg0.96Ni0.04)SiO4 Ceramic. *Journal of Electronic Materials*,1	1.9	1
17	Recent advances in theory and experiment of metamaterial-based high power radiation sources **2016**,		1
16	Double-Anode Sheet-Beam Electron Gun with a Circular Cathode for 220 GHz TWT **2019**,		1
15	The Interaction Between Two-dimensional Electron Gas and Terahertz Plasma Wave in HEMT-like Structure **2019**,		1
14	Recent advances in metamaterial klystrons. *EPJ Applied Metamaterials*, **2021**, 8, 9	0.8	1
13	A Semi-Analytic Numerical Algorithm of Diamond Pillbox Windows for Terahertz Vacuum Electron Device Applications. *IEEE Electron Device Letters*, **2021**, 42, 252-255	4.4	1
12	Investigation of Staggered Double Grating Slow Wave Structure Loaded by Photonic Crystals **2018**,		1
11	Improved Gain Equalization Technique for Q-Band Folded-Waveguide TWT for Potential Application in High-Data-Rate Communication. *IEEE Transactions on Electron Devices*, **2022**, 1-6	2.9	1
10	A 0.14 THz Angular Radial Extended Interaction Oscillator. *IEEE Transactions on Electron Devices*, **2022**, 69, 1468-1473	2.9	1
9	Virtual boundary element method for multistage depressed collector of traveling-wave tubes. *Physics of Plasmas*, **2011**, 18, 043106	2.1	0
8	An Active Transmission Matrix-Based Nonlinear Analysis for Folded Waveguide TWT. *IEEE Transactions on Electron Devices*, **2020**, 67, 1205-1210	2.9	
7	Design of a 340□GHz phase-velocity-taper travelling wave tube. *Journal of Engineering*, **2018**, 2018, 673-67	0.7	
6	Study on plasma-photonic-crystal-like beam□plasma system. *Journal of Engineering*, **2018**, 2018, 669-672	0.7	
5	A Ka-Band Angular Log-Periodic Meander-Line SWS Supported by Diamond Rods. *IEEE Transactions on Electron Devices*, **2022**, 1-6	2.9	
4	A Simulation Method Based on Nonlinear Theory for Noise Analysis in Traveling-Wave Tube. *IEEE Transactions on Electron Devices*, **2021**, 1-6	2.9	
3	Study on W-Band 2.8kW Sheet-Beam Three-Slot Staggered-Ladder Coupled-Cavity Traveling-Wave Tube. *Recent Advances in Electrical and Electronic Engineering*, **2018**, 11, 203-210	0.3	
2	Electron-optical system for dual radial sheet beams for Ka-band cascaded angular log-periodic strip-line traveling wave tube. *AIP Advances*, **2021**, 11, 035325	1.5	

1	Q-Band Helix Traveling-Wave Tube With High Efficiency by Helix Pitch and Diameter Profiling for Potential Application in the Next Generation Wireless Communication System. *IEEE Transactions on Plasma Science*, **2022**, 1-6	1.3