Neville C Luhmann

List of Publications by Year
in descending order

88	1,903	331670 21	302126 39
papers	citations	h-index	g-index

90	90	90	1034
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Modern Microwave and Millimeter-Wave Power Electronics. , 2005, , .		278
2	Performance of a Nano-CNC Machined 220-GHz Traveling Wave Tube Amplifier. IEEE Transactions on Electron Devices, 2017, 64, 2390-2397.	3.0	139
3	Phase-Shifted Traveling-Wave-Tube Circuit for Ultrawideband High-Power Submillimeter-Wave Generation. IEEE Transactions on Electron Devices, 2009, 56, 706-712.	3.0	130
4	Terahertz vacuum electronic circuits fabricated by UV lithographic molding and deep reactive ion etching. Applied Physics Letters, 2009, 95, 181505.	3.3	98
5	Nano-CNC Machining of Sub-THz Vacuum Electron Devices. IEEE Transactions on Electron Devices, 2016, 63, 4067-4073.	3.0	84
6	Millimeter wave traveling wave tubes for the 21st Century. Journal of Electromagnetic Waves and Applications, 2021, 35, 567-603.	1.6	76
7	Chapter 3: Microwave Diagnostics. Fusion Science and Technology, 2008, 53, 335-396.	1.1	72
8	Particle-In-Cell Simulation Analysis of a Multicavity W-Band Sheet Beam Klystron. IEEE Transactions on Electron Devices, 2011, 58, 251-258.	3.0	72
9	Development of a 100-W 200-GHz High Bandwidth mm-Wave Amplifier. IEEE Transactions on Electron Devices, 2018, 65, 2122-2128.	3.0	69
10	Quasi 3D ECE imaging system for study of MHD instabilities in KSTAR. Review of Scientific Instruments, 2014, 85, 11D820.	1.3	63
11	THz Backward-Wave Oscillators for Plasma Diagnostic in Nuclear Fusion. IEEE Transactions on Plasma Science, 2016, 44, 369-376.	1.3	63
12	Design and characterization of a 32-channel heterodyne radiometer for electron cyclotron emission measurements on experimental advanced superconducting tokamak. Review of Scientific Instruments, 2014, 85, 073506.	1.3	58
13	Operation of a millimeter-wave harmonic gyrotron. Journal of Infrared, Millimeter and Terahertz Waves, 1983, 4, 639-664.	0.6	52
14	Scandate Dispenser Cathode Fabrication for A High-Aspect-Ratio High-Current-Density Sheet Beam Electron Gun. IEEE Transactions on Electron Devices, 2012, 59, 1792-1798.	3.0	52
15	Electron Beam Transport System for 263-GHz Sheet Beam TWT. IEEE Transactions on Electron Devices, 2016, 63, 4466-4472.	3.0	38
16	0.22 THz wideband sheet electron beam traveling wave tube amplifier: Cold test measurements and beam wave interaction analysis. Physics of Plasmas, 2012, 19, .	1.9	34
17	Quasi-Optical Output-Cavity Design for a 50-kW Multicavity W-Band Sheet-Beam Klystron. IEEE Transactions on Electron Devices, 2009, 56, 3196-3202.	3.0	32
18	Technical overview of the millimeter-wave imaging reflectometer on the DIII-D tokamak (invited). Review of Scientific Instruments, 2014, 85, 11D702.	1.3	31

#	Article	IF	Citations
19	Millimeter-wave imaging diagnostics systems on the EAST tokamak (invited). Review of Scientific Instruments, 2016, 87, 11D901.	1.3	29
20	Fabrication of a 0.346-THz BWO for Plasma Diagnostics. IEEE Transactions on Electron Devices, 2018, 65, 2156-2163.	3.0	27
21	Two-dimensional electron cyclotron emission imaging diagnostic for TEXTOR. Review of Scientific Instruments, 2004, 75, 3875-3877.	1.3	26
22	Experimental study of multichromatic terahertz wave propagation through planar micro-channels. Applied Physics Letters, 2012, 100, .	3.3	21
23	Theory, Design, and Operation of Large-Orbit High-Harmonic Gyroklystron Amplifiers. IEEE Transactions on Plasma Science, 1985, 13, 435-443.	1.3	19
24	Nano CNC milling of two different designs of 0.22 THz TWT circuits. , 2012, , .		19
25	18â€“40-GHz Beam-Shaping/Steering Phased Antenna Array System Using Fermi Antenna. IEEE Transactions on Microwave Theory and Techniques, 2008, 56, 767-773.	4.6	18
26	Mechanical Design and Manufacturing of W-Band Sheet Beam Klystron. IEEE Transactions on Electron Devices, 2017, 64, 2675-2682.	3.0	18
27	New Trends in Microwave Imaging Diagnostics and Application to Burning Plasma. IEEE Transactions on Plasma Science, 2019, 47, 2110-2130.	1.3	17
28	Absolute intensity calibration of the 32-channel heterodyne radiometer on experimental advanced superconducting tokamak. Review of Scientific Instruments, 2014, 85, 093508.	1.3	16
29	Synthetic diagnostic for electron cyclotron emission imaging. Review of Scientific Instruments, 2018, 89, 10H117.	1.3	16
30	Liquid crystal polymer receiver modules for electron cyclotron emission imaging on the DIII-D tokamak. Review of Scientific Instruments, 2018, 89, 10H120.	1.3	15
31	W-band system-on-chip electron cyclotron emission imaging system on DIII-D. Review of Scientific Instruments, 2020, 91, 093504.	1.3	14
32	Beam transport modeling of PPM focused THz sheet beam TWT circuit. , 2011, , .		12
33	Note: Upgrade of electron cyclotron emission imaging system and preliminary results on HL-2A tokamak. Review of Scientific Instruments, 2015, 86, 076107.	1.3	11
34	Additively manufactured WR-10 copper waveguide. , 2018, , .		11
35	Design and Analysis of the Staggered Double Grating Slow Wave Circuit for 263 GHz Sheet Beam TWT. IEEE Transactions on Terahertz Science and Technology, 2020, 10, 411-418.	3.1	11
36	Experimental characterization of LIGA fabricated 0.22 THz TWT circuits. , 2011, , .		10

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37	0.2-THz Dual Mode Sheet Beam Traveling Wave Tube. IEEE Transactions on Electron Devices, 2017, 64, 1767-1773.	3.0	10
38	Millimeter-wave system-on-chip advancement for fusion plasma diagnostics. Review of Scientific Instruments, 2018, 89, 10H108.	1.3	10
39	System-on-chip upgrade of millimeter-wave imaging diagnostics for fusion plasma. Review of Scientific Instruments, 2021, 92, 053522.	1.3	10
40	Quasi-3D electron cyclotron emission imaging on J-TEXT. Plasma Science and Technology, 2017, 19, 094001.	1.5	9
41	3-D Simulations and Design of Multistage Depressed Collectors for Sheet Beam Millimeter Wave Vacuum Electron Devices. IEEE Transactions on Electron Devices, 2013, 60, 2912-2917.	3.0	8
42	Noise temperature improvement for magnetic fusion plasma millimeter wave imaging systems. Review of Scientific Instruments, 2014, 85, 033501.	1.3	8
43	Development of nano machining techniques to bridge the terahertz gap. , 2016, , .		8
44	110â€“140-GHz Wide-IF-Band 65-nm CMOS Receiver Design for Fusion Plasma Diagnostics. IEEE Microwave and Wireless Components Letters, 2022, 32, 631-634.	3.2	7
45	Resistive Electrostatic Ion Cyclotron Instability in Plasmas. IEEE Transactions on Plasma Science, 1976, 4, 40-44.	1.3	6
46	1.3: 220 GHz 50 W sheet beam travelling wave tube amplifier. , 2010, , .		6
47	Phase-locking of magnetic islands diagnosed by ECE-imaging. Review of Scientific Instruments, 2014, 85, 11D847.	1.3	6
48	Development and application of radar reflectometer using micro to infrared waves. Advances in Physics: X, 2018, 3, 1472529.	4.1	6
49	Sawtooth Precursor Oscillations on DIII-D. IEEE Transactions on Plasma Science, 2011, 39, 3022-3023.	1.3	5
50	The high-k poloidal scattering system for NSTX-U. Review of Scientific Instruments, 2018, 89, 10C114.	1.3	5
51	Multioutput Circuit for Low Voltage Ultracompact W-Band Klystron. IEEE Transactions on Electron Devices, 2020, 67, 3821-3827.	3.0	5
52	A next generation ultra short pulse reflectometry (USPR) diagnostic. Review of Scientific Instruments, 2021, 92, 034714.	1.3	5
53	Phase locking and frequency locking of a 140 GHz klystron and a 280 GHz carcinotron. Review of Scientific Instruments, 1992, 63, 4685-4687.	1.3	4
54	Ka-band E-plane Beam Steering/Shaping Phased Array System Using Antipodal Elliptically-tapered Slot Antenna. Journal of Infrared, Millimeter and Terahertz Waves, 2007, 28, 283-289.	0.6	4

#	Article	IF	Citations
55	High emission current density electron gun for a 263 GHz sheet beam traveling wave tube. , 2017, , .		4
56	Enhancement of high-harmonic gyrotron gain by a dielectric rod. Journal of Infrared, Millimeter and Terahertz Waves, 1983, 4, 831-845.	0.6	3
57	Microfabricated THz sheet beam vacuum electron devices. , 2011, , .		3
58	Simulation analysis of nano-CNC fabricated 220 GHz ultra wide band TWTA. , 2012, , .		3
59	Far-infrared tangential interferometer/polarimeter design and installation for NSTX-U. Review of Scientific Instruments, 2016, 87, 11E114.	1.3	3
60	A Periodic Cusped Magnetic - Quad Magnetic Focusing System for Low Voltage Ultra-Compact W-Band Klystron. , 2019, , .		3
61	233 GHz ultra-wide band TWTA: PPM Integrated sheet electron beam transport and PIC analysis. , 2013, , .		2
62	Double Multi-Gap Output Cavity for Low Voltage Ultra-Compact W-Band Klystron. , 2019, , .		2
63	2-D Passive Millimeter Wave Imaging System for Plasma Diagnostics. , 2007, , .		1
64	Scandate-added tungsten dispenser cathode fabrication for 220 GHz sheet beam traveling wave tube amplifier. , 2012, , .		1
65	Performance comparison between sintered tungsten dispenser cathodes and nano-composite scandate dispenser cathodes. , 2013, , .		1
66	A Q-band RF-MEMS tapered true time delay line for fusion plasma diagnostics systems. , 2015, , .		1
67	Nanoscale surface roughness effects on THz vacuum electron device performance. , 2015, , .		1
68	Effects of thermal processing and machining on emission surface quality of nano-composite scandate tungsten cathodes. , 2016, , .		1
69	Large scale production of advanced high current density thermionic cathodes. , 2017, , .		1
70	Enhancement of high-harmdnic gyrotron gain by a dielectric rod. , 1983, , .		0
71	Results of a large orbit, high harmonic gyro-twt amplifier. , 1987, , .		0
72	Array designs for amplitude and phase control of millimeter-wave beams. Journal of Infrared, Millimeter and Terahertz Waves, 1993, 14, 1509-1529.	0.6	0

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73	Millimeter Wave Solid State Devices. Materials Research Society Symposia Proceedings, 2000, 631, 211.	0.1	0
74	Millimeter Wave Imaging on the KSTAR Tokamak via Simultaneous ECET/MIR. , 2006, , .		0
75	Wide bandwidth mixer array development in millimeter wave imaging systems for plasma diagnostics. , 2007, , .		0
76	P4.24: Design and test of a high efficiency energy recovery pulse modulator. , 2010, , .		0
77	Scandate dispenser cathode for 220 GHz 50W sheet beam travelling wave tube amplifier. , 2011, , .		0
78	Investigation of overmoded waveguide mode converter for quasi-optical W-band sheet beam Klystron. , 2011, , .		0
79	Millimeter wave band TWTA compatible with nano-CNC fabrication. , 2013, , .		0
80	2D microwave imaging reflectometer electronics. Review of Scientific Instruments, 2014, 85, 11D834.	1.3	0
81	Design of a compact and high performance 263 GHz SB-TWT circuit. , 2016, , .		0
82	Low voltage ultra-compact W-band Klystron. , 2018, , .		0
83	Realizing sub-diffraction focusing for terahertz. , 2019, , .		0
84	Underground Imaging by Sub-Terahertz Radiation. Electronics (Switzerland), 2021, 10, 2694.	3.1	0
85	Lifetime Performance of Nanocomposite Scandate Tungsten Cathodes. , 2020, , .		0
86	Novel Sawtooth Structure Loading to Mitigate Mode Competition in a 346 GHz Backward Wave Oscillator. , 2020, , .		0
87	Design and Microfabrication of a Double Corrugated Waveguide for G-band TWTs. , 2020, , .		0
88	Preliminary Analysis of the Coaxial Double Staggered Grating Structure for a Hollow Beam Backward Wave Oscillator. IEEE Transactions on Electron Devices, 2022, 69, 3941-3946.	3.0	0