Sascha Preu

List of Publications by Year
in descending order

137 papers	2,042 citations	304743 22 h-index	276875 41 g-index
144 all docs	144 docs citations	144 times ranked	1577 citing authors

#	Article	IF	Citations
1	Slotted Y-branch laser for cw-THz thickness measurements at 1 THz. , 2022, , .		0
2	Ultrafast carrier dynamics in terahertz photoconductors and photomixers: beyond short-carrier-lifetime semiconductors. Nanophotonics, 2022, 11, 2661-2691.	6.0	16
3	Photonic Spectrum Analyzer for Wireless Signals in the THz Range. IEEE Access, 2022, 10, 42061-42068.	4.2	7
4	Bias-Dependent Carrier Dynamics and Terahertz Performance of ErAs:In(Al)GaAs Photoconductors. IEEE Transactions on Terahertz Science and Technology, 2022, 12, 353-362.	3.1	6
5	Frequency Selective Optoelectronic Downconversion of a Terahertz Pulse Using ErAs:In(Al)GaAs Photoconductors. IEEE Access, 2021, 9, 95391-95400.	4.2	4
6	Material properties and performance of ErAs:In(Al)GaAs photoconductors for 1550 nm laser operation. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2021, 39, .	2.1	4
7	Pulsed free space two-port photonic vector network analyzer with up to 2 THz bandwidth. Optics Express, 2021, 29, 12278.	3.4	9
8	Broadband Determination of Biodiesel Content in Petroleum Diesel Blends by Terahertz Time Domain Spectroscopy. IEEE Transactions on Terahertz Science and Technology, 2021, 11, 339-344.	3.1	2
9	Wavelength conversion through plasmon-coupled surface states. Nature Communications, 2021, 12, 4641.	12.8	19
10	Microwave Intermediate Frequency Equivalent Circuit of GaAs High Electron Mobility Field Effect Transistor Terahertz Detectors. , 2021, , .		1
11	Current tuned slotted Yâ€branch laser for wafer thickness measurements with THz radiation. Electronics Letters, 2021, 57, 936-938.	1.0	3
12	A Fully Optoelectronic Continuous-Wave 2-Port Vector Network Analyzer Operating From 0.1 THz to 1 THz. IEEE Journal of Microwaves, 2021, 1, 1015-1022.	6.5	4
13	A True Optoelectronic Spectrum Analyzer for Millimeter Waves With Hz Resolution. IEEE Access, 2021, 9, 114339-114347.	4.2	7
14	Fully Integrated THz Schottky Detectors Using Metallic Nanowires as Bridge Contacts. IEEE Access, 2021, 9, 144046-144053.	4.2	4
15	Antenna designs for near field waveguide coupling between 0.6 â€“ 0.9 THz. , 2021, , .		1
16	Characterization of a Crossed Dipole Resonator Array using a Pulsed Free Space Two-Port Photonic VNA. , 2021, , .		1
17	Broadband Terahertz Photonic Integrated Circuit with Integrated Active Photonic Devices. Photonics, 2021, 8, 492.	2.0	9
18	Visualizing nanometric structures with sub-millimeter waves. Nature Communications, 2021, 12, 7091.	12.8	5

#	Article	IF	Citations
19	Continuous Wave THz System Based on Dual Wavelength Monolithic Y-Branch Laser Diode. , 2020, , .		3
20	Vivaldi End-Fire Antenna for THz Photomixers. Journal of Infrared, Millimeter, and Terahertz Waves, 2020, 41, 728-739.	2.2	8
21	THz-TDS for Detecting Glycol Contamination in Engine Oil. Applied Sciences (Switzerland), 2020, 10, 3738.	2.5	10
22	Optical Properties of Highly Conductive SrMoO3 Oxide Thin Films in the THz Band and Beyond. Journal of Infrared, Millimeter, and Terahertz Waves, 2020, 41, 1170-1180.	2.2	7
23	ErAs:In(Al)GaAs photoconductor-based time domain system with 4.5â€‰â€‰THz single shot bandwidth and emitted terahertz power of 164â€‰â€‰ÂµW. Optics Letters, 2020, 45, 2812.	3.3	27
24	ZnO-Based Quantum Structures for Terahertz Sources. IFMBE Proceedings, 2020, , 219-223.	0.3	1
25	Broadband Dielectric Waveguides for 0.5â€“1.1 THz Operation. , 2020, , .		1
26	Performance of a 1030 nm driven ErAs: InGaAs photoconductive receiver at high THz average power. , 2020, , .		2
27	Spectroscopy of highly conductive SMO thin film in the THz range. , 2020, , .		0
28	Side-illuminated fully ballistic p-i-n diode-based photomixer at 1550 nm. , 2020, , .		1
29	An efficient Terahertz rectifier on the graphene/SiC materials platform. Scientific Reports, 2019, 9, 11205.	3.3	20
30	Antenna-coupled spintronic terahertz emitters driven by a 1550â€‰nm femtosecond laser oscillator. Applied Physics Letters, 2019, 115, .	3.3	48
31	Terahertz Time-Domain Spectroscopy Based on Commercially Available 1550 nm Fabryâ€“Perot Laser Diode and ErAs:In(Al)GaAs Photoconductors. Applied Sciences (Switzerland), 2019, 9, 2704.	2.5	20
32	Planar Lensâ€“Based Ultra-Wideband Dielectric Rod Waveguide Antenna for Tunable THz and Sub-THz Photomixer Sources. Journal of Infrared, Millimeter, and Terahertz Waves, 2019, 40, 838-855.	2.2	8
33	System Integration and Packaging of a Terahertz Photodetector at W -Band. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2019, 9, 1486-1494.	2.5	7
34	Continuous-Wave Electro-Optic Terahertz Dual-Comb Operating from 0.096 to 0.496 THz Using ErAs:In(Al)GaAs Photoconductors. , 2019, , .		0
35	Negative differential resistance in ZnO-based resonant tunneling diodes. , 2019, , .		3
36	International System of Units (SI) Traceable Noise-Equivalent Power and Responsivity Characterization of Continuous Wave ErAs:InGaAs Photoconductive Terahertz Detectors. Photonics, 2019, 6, 15.	2.0	15

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37	Picosecond-Scale Terahertz Pulse Characterization With Field-Effect Transistors. IEEE Transactions on Terahertz Science and Technology, 2019, 9, 262-271.	3.1	9
38	W-Band Heterodyne Wireless System with 2.3 GHz Intermediate Frequency Driven Entirely by ErAs:In(Al)GaAs Photoconductors. , 2019, , .		0
39	Characterization of a Terahertz Isolator using a 1.5 Port Vector Spectrometer. , 2019, , .		4
40	High Dynamic Range THz Systems using ErAs:In(Al)GaAs Photoconductors. , 2019, , .		2
41	Quasi-Analytical Description of a Double Slit Planar Dielectric Waveguide as Broadband Dispersion Compensating Element. , 2019, , .		1
42	Effect of DC Electric Field on the Emitted THz Signal of Antenna-Coupled Spintronic Emitters. , 2019, , .		0
43	1550-nm Driven ErAs:In(Al)GaAs Photoconductor-Based Terahertz Time Domain System with 6.5 THz Bandwidth. Journal of Infrared, Millimeter, and Terahertz Waves, 2018, 39, 340-348.	2.2	62
44	Systematic characterization of a 1550â€‰nm microelectromechanical (MEMS)-tunable vertical-cavity surface-emitting laser (VCSEL) with 7.92â€‰THz tuning range for terahertz photomixing systems. Journal of Applied Physics, 2018, 123, .	2.5	8
45	Enhanced Responsivity of ZnSeâ€Based Metalâ€“Semiconductorâ€“Metal Nearâ€Ultraviolet Photodetector via Impact Ionization. Physica Status Solidi - Rapid Research Letters, 2018, 12, 1700418.	2.4	14
46	Discriminating gasoline fuel contamination in engine oil by terahertz time-domain spectroscopy. Tribology International, 2018, 119, 123-130.	5.9	11
47	ErAs Enhanced Active Photonic THz Components. , 2018, , .		0
48	Proposal for a Monolithic Broadband Terahertz Quantum Cascade Laser Array Tailored to Detection of Explosive Materials. Sensor Letters, 2018, 16, 1-7.	0.4	10
49	1.5 Port Vector Spectrometer for Terahertz Time Domain Spectroscopy. , 2018, , .		4
50	Enhancement of THz-QTDS performance by pulsed laser operation. , 2018, , .		0
51	Continuous-Wave Terahertz System with 50 dB Dynamic Range at 1 THz Using a n-i-pn-i-p Superlattice Photomixer and an ErAs: InGaAs Photoconductor Operated at 1550 nm. , 2018, , .		1
52	Broadband Terahertz Detection with an Antenna Coupled Zero-Bias Field-Effect Transistor. , 2018, , .		1
53	Terahertz generation with ballistic photodiodes under pulsed operation. Semiconductor Science and Technology, 2018, 33, 114015.	2.0	4
54	Broadband Terahertz Detection With Zero-Bias Field-Effect Transistors Between 100 GHz and 11.8 THz With a Noise Equivalent Power of 250 pW/$sqrt{ext{Hz}}$ at 0.6 THz. IEEE Transactions on Terahertz Science and Technology, 2018, 8, 465-471.	3.1	11

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55	Error Sources and Distinctness of Materials Parameters Obtained by THz-Time Domain Spectroscopy Using an Example of Oxidized Engine Oil. Sensors, 2018, 18, 2087.	3.8	9
56	Enhancing the performance of THz quasi time-domain spectroscopy systems by low duty cycle laser operation. Optics Express, 2018, 26, 32758.	3.4	14
57	Sensitivity limits of millimeter-wave photonic radiometers based on efficient electro-optic upconverters. Optica, 2018, 5, 1210.	9.3	24
58	Fiber-Coupled 2-D n-i-pn-i-p Superlattice Photomixer Array. IEEE Transactions on Antennas and Propagation, 2017, 65, 3474-3480.	5.1	10
59	High accuracy terahertz timeâ€domain system for reliable characterization of photoconducting antennas. Microwave and Optical Technology Letters, 2017, 59, 468-472.	1.4	7
60	Resonant Tunneling and Quantum Cascading for Optimum Room-Temperature Generation of THz Signals. IEEE Transactions on Electron Devices, 2017, 64, 3482-3488.	3.0	11
61	Comparison of large area and lumped element field-effect transistors for broadband detection of Terahertz. , 2017, , .		1
62	Dispersive properties of self-complementary log-periodic antennas in pulsed THz systems. , 2017, , .		2
63	Investigation of parasitic coupling of THz radiation to a large area field-effect transistor. , 2017, , .		2
64	Continuous-wave 1550 nm operated terahertz system using ErAs:In(Al)GaAs photo-conductors with 52 dB dynamic range at 1 THz. Optics Express, 2017, 25, 29492.	3.4	50
65	Sub-THz photon counting receiver working at room temperature for polarization measurements of the cosmic microwave background radiation. , 2016, , .		1
66	Maximization of the optical intra-cavity power of whispering-gallery mode resonators via coupling prism. Optics Express, 2016, 24, 26503.	3.4	9
67	Pulsed THz time domain system with ErAs:In(Al)GaAs photoconductors. , 2016, , .		0
68	Components Towards a Photonics Aided THz Vector Network Analyzer. , 2016, , .		3
69	Efficient and Coherent Conversion of 80 GHz Signals into the Optical Domain Using a Nonlinear Whispering Gallery Mode Resonator. , 2016, , .		1
70	Efficient Up-Conversion of Weak THz Signals into the Optical Domain Using a Whispering Gallery Mode Resonator. , 2016, , .		2
71	Array of Dielectric Rod Waveguide antennas for millimeter-wave power generation. , 2015, , .		8
72	Introduction to the Special Issue on Terahertz Cameras and Detector Arrays. Journal of Infrared, Millimeter, and Terahertz Waves, 2015, 36, 877-878.	2.2	1

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73	Photomixing and photoconductive THz generation improvement in SI-GaAs after carbon irradiation. , 2015, , .		1
74	Continuous wave terahertz radiation from antennas fabricated on C^12-irradiated semi-insulating GaAs. Optics Letters, 2015, 40, 4540.	3.3	11
75	Increasing the bandwidth of Dielectric Rod Waveguide antennas for terahertz applications. , 2015, , .		1
76	Symmetry effects in broadband, room-temperature field effect transistor THz detectors. , 2015, , .		1
77	Dielectric Rod Waveguide Antenna as THz Emitter for Photomixing Devices. IEEE Transactions on Antennas and Propagation, 2015, 63, 882-890.	5.1	46
78	Terahertz response of patterned epitaxial graphene. New Journal of Physics, 2015, 17, 053045.	2.9	11
79	Broadband THz detection from 01 to 22 THz with large area field-effect transistors. Optics Express, 2015, 23, 20732.	3.4	26
80	Widely tunable telecom MEMS-VCSEL for terahertz photomixing. Optics Letters, 2015, 40, 4428.	3.3	7
81	THz Autocorrelators for ps Pulse Characterization Based on Schottky Diodes and Rectifying Field-Effect Transistors. IEEE Transactions on Terahertz Science and Technology, 2015, 5, 922-929.	3.1	15
82	2.75 THz tuning with a triple-DFB laser system at 1550 nm and InGaAs photomixers. Journal of Infrared, Millimeter, and Terahertz Waves, 2015, 36, 269-277.	2.2	97
83	Terahertz radiation enhancement through use of plasmonic photomixers. , 2014, , .		0
84	Ultra-broadband telecom MEMS-VCSEL for frequency-tunable terahertz generation with photomixers. , 2014, , .		0
85	Compact quasi-optical Schottky detector with fast voltage response. , 2014, , .		4
86	High power terahertz generation from ErAs: InGaAs plasmonic photomixers. , 2014, , .		0
87	Waveguide coupling to high index whispering gallery mode resonators in the THz domain. , 2014, , .		1
88	Plasmonics enhanced photomixing for generating quasi-continuous-wave frequency-tunable terahertz radiation. Optics Letters, 2014, 39, 4522.	3.3	44
89	High power terahertz generation using 1550â€‰nm plasmonic photomixers. Applied Physics Letters, 2014, 105, .	3.3	70
90	Ultra-wideband Dielectric Rod Waveguide antenna as photomixer-based THz emitter. , 2014, , .		1

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91	Detecting THz in the telecom range: All resonant THz up-conversion in a whispering gallery mode resonator. , 2014, , .		2
92	Dielectric rod waveguide as an enabling technology for THz frequencies. , 2014, , .		1
93	Self-Assembled ErSb Nanostructures with Optical Applications in Infrared and Terahertz. Nano Letters, 2014, 14, 1107-1112.	9.1	18
94	A Unified Derivation of the Terahertz Spectra Generated by Photoconductors and Diodes. Journal of Infrared, Millimeter, and Terahertz Waves, 2014, 35, 998-1010.	2.2	21
95	Measurement and modeling of ErAs:In0.53Ga0.47As nanocomposite photoconductivity for THz generation at 1.55â€‰Ï¼m pump wavelength. Journal of Applied Physics, 2014, 116, .	2.5	12
96	THz Spectroscopy of Self-Assembled ErSb Nanowires. , 2014, , .		0
97	On the finite semiconductor thickness effect applied to large area emitters devices for THz radiation. , 2014, , .		0
98	Plasmonic Photomixers for Increased Terahertz Radiation Powers at 1550 nm Optical Pump Wavelength. , 2014, , .		0
99	From Arrays of THz Antennas to Large-Area Emitters. IEEE Transactions on Terahertz Science and Technology, 2013, 3, 532-544.	3.1	15
100	Broadband THz detection and homodyne mixing using GaAs high-electron-mobility transistor rectifiers. Proceedings of SPIE, 2013, , .	0.8	5
101	New antenna topology coupled to a new waveguide structure for THz radiation and propagation. , 2013, , .		0
102	Arrays and New Antenna Topologies for Increasing THz Power Generation Using Photomixers. Journal of Infrared, Millimeter, and Terahertz Waves, 2013, 34, 97-108.	2.2	11
103	Emission of the THz waves from large area mesas of superconducting Bi2Sr2CaCu2O8+Î´ by the injection of spin polarized current. Physica C: Superconductivity and Its Applications, 2013, 491, 7-10.	1.2	13
104	Continuous-Wave Sub-THz Photonic Generation With Ultra-Narrow Linewidth, Ultra-High Resolution, Full Frequency Range Coverage and High Long-Term Frequency Stability. IEEE Transactions on Terahertz Science and Technology, 2013, 3, 461-471.	3.1	45
105	Directional emission of dielectric disks with a finite scatterer in the THz regime. Optics Express, 2013, 21, 16370.	3.4	23
106	Ultra-fast transistor-based detectors for precise timing of near infrared and THz signals. Optics Express, 2013, 21, 17941.	3.4	31
107	Arrayed free space continuous-wave terahertz photomixers. Optics Letters, 2013, 38, 3673.	3.3	8
108	Interferometer measurements of terahertz waves from Bi₂Sr₂CaCu₂O_{8+d}mesas. Superconductor Science and Technology, 2012, 25, 125004.	3.5	40

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109	Multiplicative Mixing and Detection of THz Signals with a Field Effect Transistor. , 2012, , .		0
110	Ultra-narrow linewidth CW sub-THz generation using GS based OFCG and n-i-pn-i-p superlattice photomixers. Electronics Letters, 2012, 48, 1425.	1.0	16
111	Sub-THz and THz Photonic generation with continuous tunability using gain switching based optical frequency comb generators and n-i-p-n-i-p superlattice photomixers. , 2012, , .		1
112	Inducing an Incipient Terahertz Finite Plasmonic Crystal in Coupled Two Dimensional Plasmonic Cavities. Physical Review Letters, 2012, 109, 126803.	7.8	52
113	1550â€‰nm ErAs:In(Al)GaAs large area photoconductive emitters. Applied Physics Letters, 2012, 101, .	3.3	65
114	High power terahertz photomixer arrays. , 2012, , .		1
115	An improved model for non-resonant terahertz detection in field-effect transistors. Journal of Applied Physics, 2012, 111, .	2.5	78
116	Detection of nanosecond-scale, high power THz pulses with a field effect transistor. Review of Scientific Instruments, 2012, 83, 053101.	1.3	17
117	Enhanced performance of resonant sub-terahertz detection in a plasmonic cavity. Applied Physics Letters, 2012, 100, .	3.3	48
118	Terahertz Detection by a Homodyne Field Effect Transistor Multiplicative Mixer. IEEE Transactions on Terahertz Science and Technology, 2012, 2, 278-283.	3.1	28
119	Gain Enhancement by Dielectric Horns in the Terahertz Band. IEEE Transactions on Antennas and Propagation, 2011, 59, 3164-3170.	5.1	12
120	Tunable, continuous-wave Terahertz photomixer sources and applications. Journal of Applied Physics, 2011, 109, .	2.5	393
121	Terahertz wave emission from layered superconductors: Interferometer measurements. , 2011, , .		0
122	Efficient optical up-conversion by coherent sum-frequency generation for highly sensitive terahertz detection. , 2011, , .		0
123	Efficient IIIâ€“V tunneling diodes with ErAs recombination centers. Semiconductor Science and Technology, 2010, 25, 115004.	2.0	14
124	Continuous wave terahertz emitter arrays for spectroscopy and imaging applications. Proceedings of SPIE, 2010, , .	0.8	6
125	Coherent superposition of terahertz beams from a phased linear photomixer array. , 2009, , .		1
126	Telecom-wavelength compatible THz n-i-pn-i-p superlattice photomixers for spectroscopical applications. , 2009, , .		0

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127	Coupled whispering gallery mode resonators in the Terahertz frequency range. Optics Express, 2008, 16, 7336.	3.4	48
128	Photonic molecules in the Terahertz - mode splitting in coupled dielectric whispering gallery mode resonators. , 2008, , .		0
129	Coherent superposition of terahertz beams. Proceedings of SPIE, 2008, , .	0.8	7
130	Interference between two coherently driven monochromatic terahertz sources. Applied Physics Letters, 2008, 92, 221107.	3.3	9
131	Spectroscopy of Photonic Molecules in the Terahertz Range. , 2008, , .		1
132	Dielectric microcavities for THz radiation: identical mode spectrum and coupling in poly-ethylene disks. , 2008, , .		0
133	Interference between monochromatic Terahertz sources. , 2008, , .		0
134	Efficient terahertz emission from ballistic transport enhanced n-i-p-n-i-p superlattice photomixers. Applied Physics Letters, 2007, 90, 212115.	3.3	59
135	Efficient THz Source Using GaAs and InGaAs nipnip Photomixers. , 2007, , .		0
136	Efficient CW terahertz generation with n-i-pn-i-p photomixers. , 2007, , .		0
137	Highly collimated and directional continous-wave Terahertz emission by photomixing in semiconductor device arrays. , 2006, , .		14