Peter Haring BolÃ-var

List of Publications by Year in descending order

Source: https://exaly.com/author-pdf/419038/publications.pdf

Version: 2024-02-01

167 papers 6,354 citations

71102 41 h-index 77 g-index

169 all docs

169 docs citations

169 times ranked 5336 citing authors

#	Article	IF	CITATIONS
1	Integrated THz technology for label-free genetic diagnostics. Applied Physics Letters, 2002, 80, 154-156.	3.3	483
2	Label-free probing of the binding state of DNA by time-domain terahertz sensing. Applied Physics Letters, 2000, 77, 4049-4051.	3.3	383
3	Rational design of high-responsivity detectors of terahertz radiation based on distributed self-mixing in silicon field-effect transistors. Journal of Applied Physics, 2009, 105, .	2.5	291
4	Observation of Bloch oscillations in a semiconductor superlattice. Solid State Communications, 1992, 84, 943-946.	1.9	286
5	Frequency selective surfaces for high sensitivity terahertz sensing. Applied Physics Letters, 2007, 91, .	3.3	268
6	Ultrahigh-quality-factor silicon-on-insulator microring resonator. Optics Letters, 2004, 29, 2861.	3.3	262
7	THz Active Imaging Systems With Real-Time Capabilities. IEEE Transactions on Terahertz Science and Technology, 2011, 1, 183-200.	3.1	224
8	Enhanced transmission of THz radiation through subwavelength holes. Physical Review B, 2003, 68, .	3.2	221
9	Measurement of the dielectric constant and loss tangent of high dielectric-constant materials at terahertz frequencies. IEEE Transactions on Microwave Theory and Techniques, 2003, 51, 1062-1066.	4.6	171
10	Ultrafast carrier dynamics in semiconductor quantum dots. Physical Review B, 1996, 53, 1463-1467.	3.2	170
11	Transmission of THz radiation through InSb gratings of subwavelength apertures. Optics Express, 2005, 13, 847.	3.4	169
12	Time-domain measurements of surface plasmon polaritons in the terahertz frequency range. Physical Review B, 2004, 69, .	3.2	153
13	Terahertz responsivity and low-frequency noise in biased silicon field-effect transistors. Applied Physics Letters, 2013, 102, 153505.	3.3	145
14	Propagation of Surface Plasmon Polaritons on Semiconductor Gratings. Physical Review Letters, 2004, 93, 256804.	7.8	141
15	A functionalized THz sensor for marker-free DNA analysis. Physics in Medicine and Biology, 2003, 48, 3625-3636.	3.0	135
16	Polarization dependence of heavy- and light-hole quantum beats. Physical Review B, 1992, 46, 10460-10463.	3.2	129
17	Low-frequency active surface plasmon optics on semiconductors. Applied Physics Letters, 2006, 88, 082106.	3.3	112
18	Asymmetrically coupled silicon-on-insulator microring resonators for compact add-drop multiplexers. IEEE Photonics Technology Letters, 2003, 15, 921-923.	2.5	111

#	Article	IF	Citations
19	Bloch oscillations of excitonic wave packets in semiconductor superlattices. Physical Review B, 1994, 50, 14389-14404.	3.2	106
20	Dynamics of optical excitations in a ladder-type π-conjugated polymer containing aggregate states. Physical Review B, 1996, 54, 1759-1765.	3.2	94
21	All-optical switching of the transmission of electromagnetic radiation through subwavelength apertures. Optics Letters, 2005, 30, 2357.	3.3	84
22	Electrical percolation characteristics of Ge2Sb2Te5 and Sn doped Ge2Sb2Te5 thin films during the amorphous to crystalline phase transition. Journal of Applied Physics, 2005, 97, 083538.	2.5	84
23	Label-free probing of genes by time-domain terahertz sensing. Physics in Medicine and Biology, 2002, 47, 3815-3821.	3.0	81
24	High Photocurrent in Gated Graphene–Silicon Hybrid Photodiodes. ACS Photonics, 2017, 4, 1506-1514.	6.6	78
25	Label–free THz sensing of genetic sequences: towards â€̃THz biochips'. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2004, 362, 323-335.	3.4	76
26	Integrated planar terahertz resonators for femtomolar sensitivity label-free detection of DNA hybridization. Applied Optics, 2002, 41, 2074.	2.1	72
27	Linear and nonlinear transmission of CuxS quantum dots. Applied Physics Letters, 1995, 67, 653-655.	3.3	68
28	Hot-phonon effects in femtosecond luminescence spectra of electron-hole plasmas in CdS. Physical Review B, 1995, 52, 4728-4731.	3.2	68
29	THz 3-D Image Formation Using SAR Techniques: Simulation, Processing and Experimental Results. IEEE Transactions on Terahertz Science and Technology, 2013, 3, 606-616.	3.1	65
30	Temperature dependence of the permittivity and loss tangent of high-permittivity materials at terahertz frequencies. IEEE Transactions on Microwave Theory and Techniques, 2005, 53, 1266-1271.	4.6	59
31	Effect of Ti (Macro-) Alloying on the High-Temperature Oxidation Behavior of Ternary Mo–Si–B Alloys at 820–1,300°C. Oxidation of Metals, 2013, 80, 231-242.	2.1	52
32	Three-Dimensional Terahertz Imaging With Sparse Multistatic Line Arrays. IEEE Journal of Selected Topics in Quantum Electronics, 2017, 23, 1-11.	2.9	52
33	Optical nonlinearities and carrier trapping dynamics in CdS and CuxS nanocrystals. Superlattices and Microstructures, 1996, 20, 395-404.	3.1	49
34	Femtosecond coherent polariton dynamics in the layered III-VI semiconductor InSe. Physical Review B, 1997, 55, 4620-4627.	3.2	47
35	Thermal switching of the enhanced transmission of terahertz radiation through subwavelength apertures. Optics Letters, 2004, 29, 1680.	3.3	47
36	Excitonic Emission of THz Radiation: Experimental Evidence of the Shortcomings of the Bloch Equation Method. Physical Review Letters, 1997, 78, 2232-2235.	7.8	46

#	Article	IF	CITATIONS
37	Optically switchable mirrors for surface plasmon polaritons propagating on semiconductor surfaces. Physical Review B, 2006, 74, .	3.2	46
38	Phase-locking of the beat signal of two distributed-feedback diode lasers to oscillators working in the MHz to THz range. Optics Express, 2010, 18, 8621.	3.4	45
39	Energy transfer in molecularly doped conjugated polymers. Synthetic Metals, 1996, 78, 289-293.	3.9	44
40	Electric field-induced photoluminescence quenching in molecularly doped polymer light-emitting diodes. Chemical Physics, 1996, 207, 147-157.	1.9	43
41	Optimization of enhanced terahertz transmission through arrays of subwavelength apertures. Physical Review B, 2004, 69, .	3.2	43
42	Observation of terahertz radiation from higher-order two-dimensional plasmon modes in GaAs/AlGaAs single quantum wells. Applied Physics Letters, 1999, 74, 1006-1008.	3.3	38
43	A low-cost fabrication technique for symmetrical and asymmetrical layer-by-layer photonic crystals at submillimeter-wave frequencies. IEEE Transactions on Microwave Theory and Techniques, 2002, 50, 2384-2392.	4.6	35
44	Terahertz Science, Engineering and Systems-from Space to Earth Applications. , 0, , .		35
45	Modular parallel-plate THz components for cost-efficient biosensing systems. Semiconductor Science and Technology, 2005, 20, S281-S285.	2.0	34
46	Highly selective etch process for silicon-on-insulator nano-devices. Microelectronic Engineering, 2005, 78-79, 212-217.	2.4	32
47	Carrier cooling and exciton formation in GaSe. Physical Review B, 1997, 56, 4578-4583.	3.2	30
48	Reconfigurable THz Plasmonic Antenna Based on Few-Layer Graphene with High Radiation Efficiency. Nanomaterials, 2018, 8, 577.	4.1	30
49	Dynamics of excitation transfer in dye doped Î-conjugated polymers. Chemical Physics Letters, 1995, 245, 534-538.	2.6	29
50	Four-wave-mixing theory beyond the semiconductor Bloch equations. Physica Status Solidi (B): Basic Research, 1995, 188, 447-456.	1.5	29
51	Uncooled antenna-coupled terahertz detectors with 22 <i>μ</i> s response time based on BiSb/Sb thermocouples. Applied Physics Letters, 2013, 102, .	3.3	29
52	Correlation of Electrical and Structural Properties of Single As-Grown GaAs Nanowires on Si (111) Substrates. Nano Letters, 2015, 15, 981-989.	9.1	29
53	Computational Image Enhancement for Frequency Modulated Continuous Wave (FMCW) THz Image. Journal of Infrared, Millimeter, and Terahertz Waves, 2019, 40, 775-800.	2.2	28
54	Angle-dependent THz tomography – characterization of thin ceramic oxide films for fuel cell applications. Applied Physics B: Lasers and Optics, 2001, 72, 361-366.	2.2	27

#	Article	IF	CITATIONS
55	Detection of Bloch oscillations in a semiconductor superlattice by time-resolved terahertz spectroscopy and degenerate four-wave mixing. Solid-State Electronics, 1994, 37, 1321-1326.	1.4	26
56	Optimizing the optical and electrical properties of graphene ink thin films by laser-annealing. 2D Materials, 2015, 2, 011003.	4.4	26
57	Analysis of the propagation of terahertz surface plasmon polaritons on semiconductor groove gratings. Journal of Applied Physics, 2007, 101, 023707.	2.5	25
58	Deposition and characterization of Ge–Sb–Te layers for applications in optical data storage. Applied Surface Science, 2001, 179, 55-60.	6.1	24
59	Ultrasensitive THz biosensor for PCR-free cDNA detection based on frequency selective surfaces. Biomedical Optics Express, 2020, 11, 448.	2.9	24
60	Combined optical and spatial modulation THz-spectroscopy for the analysis of thin-layered systems. Applied Physics Letters, 2002, 81, 1791-1793.	3.3	23
61	Lateral phase change random access memory cell design for low power operation. Microsystem Technologies, 2006, 13, 169-172.	2.0	21
62	High-power solid-state cw dye laser. Optics Express, 2011, 19, 26382.	3.4	20
63	High signal-to-noise-ratio electro-optical terahertz imaging system based on an optical demodulating detector array. Optics Letters, 2009, 34, 3424.	3.3	19
64	Study of hybrid and pure plasmonic terahertz antennas based on graphene guided-wave structures. Nano Communication Networks, 2017, 12, 34-42.	2.9	19
65	Comparison of Subspace and ARX Models of a Waveguide's Terahertz Transient Response After Optimal Wavelet Filtering. IEEE Transactions on Microwave Theory and Techniques, 2004, 52, 2409-2419.	4.6	18
66	Influence of LO-Phonon Emission on Bloch Oscillations in Semiconductor Superlattices. Physica Status Solidi (B): Basic Research, 1997, 204, 83-86.	1.5	17
67	Terahertz Modulator Based on Vertically Coupled Fano Metamaterial. IEEE Transactions on Terahertz Science and Technology, 2018, 8, 502-508.	3.1	15
68	Few-Layer MoS ₂ /a-Si:H Heterojunction Pin-Photodiodes for Extended Infrared Detection. ACS Photonics, 2019, 6, 1372-1378.	6.6	15
69	Deposition of diamond/ \hat{l}^2 -SiC composite gradient films by HFCVD: A competitive growth process. Diamond and Related Materials, 2014, 42, 41-48.	3.9	14
70	Measurement of propagation constant in waveguides with wideband coherent terahertz spectroscopy. Journal of the Optical Society of America B: Optical Physics, 2003, 20, 391.	2.1	13
71	Time-resolved broadband analysis of slow-light propagation and superluminal transmission of electromagnetic waves in three-dimensional photonic crystals. Physical Review B, 2005, 71, .	3.2	13
72	Characterization of Ge–Sb–Te thin films deposited using a composition-spread approach. Thin Solid Films, 2001, 398-399, 379-384.	1.8	12

#	Article	IF	Citations
73	A sparse array based sub-terahertz imaging system for volume inspection. , 2015, , .		12
74	Crossover from coherent to incoherent excitation of two-dimensional plasmons inGaAs/AlxGa1â^'xAssingle quantum wells by femtosecond laser pulses. Physical Review B, 2001, 64, .	3.2	11
75	Design of an LED-based sensor system to distinguish human skin from workpieces in safety applications. Applied Optics, 2012, 51, 1865.	1.8	11
76	Characterization of polypropylene thin-film microstrip lines at millimeter and submillimeter wavelengths. Microwave and Optical Technology Letters, 2001, 29, 97-100.	1.4	10
77	Terahertz biosensors based on double split ring arrays. Proceedings of SPIE, 2008, , .	0.8	10
78	2-in-1 red-/green-/blue sensitive a-SiC:H/a-Si:H/a-SiGeC:H thin film photo detector with an integrated optical filter. Thin Solid Films, 2014, 552, 212-217.	1.8	10
79	THz Detection of Biomolecules in Aqueous Environments—Status and Perspectives for Analysis Under Physiological Conditions and Clinical use. Journal of Infrared, Millimeter, and Terahertz Waves, 2021, 42, 607-646.	2.2	10
80	THz Active Imaging Systems with Real-Time Capabilities. NATO Science for Peace and Security Series B: Physics and Biophysics, 2014, , 153-187.	0.3	10
81	Inversionless amplification of coherent terahertz radiation. Physical Review B, 2003, 67, .	3.2	9
82	Improved coherent terahertz emission by modification of the dielectric environment. Applied Physics Letters, 2003, 83, 4196-4198.	3.3	8
83	Stand-off real-time synthetic imaging at mm-wave frequencies. , 2012, , .		8
84	200â€CHz bandwidth on wafer characterization of CMOS nonlinear transmission line using electroâ€optic sampling. Microwave and Optical Technology Letters, 2012, 54, 1858-1862.	1.4	8
85	MAC-oriented programmable terahertz PHY via graphene-based Yagi-Uda antennas. , 2018, , .		8
86	Influence of cocamidopropyl betaine on the formation and carbonation of portlandite – A microscopy study. Construction and Building Materials, 2018, 163, 793-797.	7.2	7
87	The resonant interband contribution to the TEOS signal. Solid State Communications, 1997, 101, 167-171.	1.9	6
88	Influence of carrier–carrier scattering on intraband dephasing. Superlattices and Microstructures, 1999, 26, 93-102.	3.1	6
89	Hybrid Continuous-Wave Demodulating Multipixel Terahertz Imaging Systems. IEEE Transactions on Microwave Theory and Techniques, 2010, 58, 2022-2026.	4.6	6
90	Allâ€electronic terahertz spectrometer for biosensing. Microwave and Optical Technology Letters, 2011, 53, 2899-2902.	1.4	6

#	Article	IF	CITATIONS
91	Long-range guided THz radiation by thin layers of water. Optics Express, 2012, 20, 27781.	3.4	6
92	Simulation and Data-Processing Framework for Hybrid Synthetic Aperture THz Systems Including THz-Scattering. IEEE Transactions on Terahertz Science and Technology, 2013, 3, 625-634.	3.1	6
93	Conception and realization of a semiconductor based 240 GHz full 3D MIMO imaging system. Proceedings of SPIE, 2017, , .	0.8	6
94	Substrate-integrated microfluidics for sensitive biosensing with complementary THz metamaterials in water. Applied Physics Letters, 2022, 120, .	3.3	6
95	Multifrequency Investigation of Single- and Double-Stranded DNA with Scalable Metamaterial-Based THz Biosensors. Biosensors, 2022, 12, 483.	4.7	6
96	Investigation of Bloch oscillations in a GaAs/AlGaAs superlattice by spectrally resolved four-wave mixing. Semiconductor Science and Technology, 1994, 9, 419-421.	2.0	5
97	Low-temperature THz imaging of thin high-temperature superconductor films. Physica C: Superconductivity and Its Applications, 2003, 399, 53-60.	1.2	5
98	Frequency Selective Surfaces for High-Sensitivity Terahertz Sensors., 2007,,.		5
99	Broadband Terahertz Analysis of Energetic Materials—Influence of Crystal Structure and Additives. IEEE Transactions on Terahertz Science and Technology, 2013, 3, 649-655.	3.1	5
100	Training Auto-Encoder-Based Optimizers for Terahertz Image Reconstruction. Lecture Notes in Computer Science, 2019, , 93-106.	1.3	5
101	High-Sensitivity Focus-Induced Photoresponse in Amorphous Silicon Photodiodes for Enhanced Three-Dimensional Imaging Sensors. Physical Review Applied, 2022, 17, .	3.8	5
102	Composition spread analysis of phase change dynamics in GexSbyTe1â^'xâ^'y films embedded in an optical multilayer stack. IET Science, Measurement and Technology, 2004, 151, 394-397.	0.7	4
103	Broadband Terahertz and Sub-terahertz CMOS Modules for Imaging and Spectroscopy Applications. Procedia Engineering, 2012, 47, 1491-1497.	1.2	4
104	Diminishing relative jitter in electrooptic sampling of active mm-wave and THz circuits. Optics Express, 2013, 21, 4396.	3.4	4
105	Towards cost-efficient THz biochip technologies. , 2007, , .		3
106	THz plasmonic antennas: From metals to semiconductors. , 2010, , .		3
107	Surveying of Pure and Hybrid Plasmonic Structures Based on Graphene for Terahertz Antenna. , 2016, , .		3
108	Detection of Human Tumor Markers with THz Metamaterials. , 2018, , .		3

#	Article	lF	CITATIONS
109	Aspects of Signal Processing for Multistatic Terahertz Imaging Systems. , 2021, , .		3
110	High-speed nonlinear focus-induced photoresponse in amorphous silicon photodetectors for ultrasensitive 3D imaging applications. Scientific Reports, 2022, 12 , .	3.3	3
111	Inversionless amplification of coherent THz radiation., 0,,.		2
112	Influence of Hot Carrier Diffusion on the Density Limitation of Optical Data Storage. Japanese Journal of Applied Physics, 2004, 43, 4700-4703.	1.5	2
113	Low cost thermopile detectors for THz imaging and sensing. , 2008, , .		2
114	Terahertz responsivity enhancement and low-frequency noise study in silicon CMOS detectors using a drain current bias. , $2011,\ldots$		2
115	High-power CW tunable solid state dye lasers: from the visible to UV. , 2012, , .		2
116	Fast antenna-coupled terahertz detectors based on uncooled thermoelements., 2012,,.		2
117	Experimental evidence for cm propagation lengths of long-range guided terahertz radiation by thin layers of water. Applied Physics Letters, 2013, 103, .	3.3	2
118	Efficient, robust, and scale-invariant decomposition of Raman spectra., 2013, , .		2
119	Electronic THz-spectrometer for plasmonic enhanced deep subwavelength layer detection. , 2015, , .		2
120	Comparison of model-based material parameter extraction in frequency- and time-domain. , 2015, , .		2
121	Illumination aspects of sparse line arrays for 3D terahertz imaging. , 2016, , .		2
122	Material-Dependencies of the THz emission from plasmonic graphene-based photoconductive antenna structures. , 2017, , .		2
123	Ultrafast Carrier Recombination and Transient Lattice Temperature Changes in 25 nm Thin Hydrogenated Amorphous Silicon Films. ACS Applied Electronic Materials, 2019, 1, 2396-2405.	4.3	2
124	THz spectroscopy of bovine serum albumin solution using the long-range guided mode supported by thin liquid films. , 2014, , .		2
125	Deep Optimization Prior for THz Model Parameter Estimation. , 2022, , .		2
126	Excitation process of two-dimensional plasmons excited by femtosecond laser pulses. Microelectronic Engineering, 1999, 47, 289-292.	2.4	1

#	Article	IF	CITATIONS
127	<title>Ge-Sb-Te system for rewritable optical data storage by a composition-spread approach $<$ /title>. , 2001, 4281, 51.		1
128	Integrated THz biomolecular sensors for DNA. , 0, , .		1
129	Surface Plasmon Polariton-based Coaxial Probe for Terahertz Near-field Microscopy. , 2007, , .		1
130	Towards 3-D THz volume inspection for process control. , 2014, , .		1
131	A sparse multistatic imaging system for terahertz volume inspection. , 2015, , .		1
132	MM-wave dispersion characteristics of a nonlinear transmission line measured by electrooptic sampling. , 2016, , .		1
133	Error analysis of model-based frequency- and time-domain methods for THz material parameter extraction. , $2016, $, .		1
134	Open-loop electrooptic sampling for real-time analysis and near-field imaging of ultrafast electronic devices. Optical and Quantum Electronics, 2017, 49, 1.	3.3	1
135	A Graphene Based Plasmonic Antenna Design for Communication in the THz Regime. , 2017, , .		1
136	Uncertainty Quantization of Fano Resonance Frequency Shift Measurement., 2019,,.		1
137	Substrate-enhanced THz nanoscopic recognition of single bacteria. , 2019, , .		1
138	Reducing errors in THz material parameter determination by model-based time-domain extraction methods. Journal of the Optical Society of America B: Optical Physics, 2021, 38, 815.	2.1	1
139	Coherent dynamics of excitonic and biexcitonic wave packets in semiconductor superlattices. Nuovo Cimento Della Societa Italiana Di Fisica D - Condensed Matter, Atomic, Molecular and Chemical Physics, Biophysics, 1995, 17, 1573-1578.	0.4	0
140	Wavelet filtered modelling applied to measurements of a waveguide's THz time domain response. , 0, , .		0
141	Intraband coherence of Bloch oscillations after momentum scattering. Applied Physics A: Materials Science and Processing, 2004, 78, 491-495.	2.3	0
142	Photonic engineering of nonlinear-optical properties of hybrid materials for efficient ultrafast optical switching (PHOENIX)., 2004, 5464, 39.		0
143	Metamaterials technology for sub-mm wave imaging. , 2006, , .		0
144	Recent Advances in Photonic Crystals and Metamaterials. , 2007, , .		0

#	Article	IF	CITATIONS
145	Development of a hybrid THz camera using synchronized two-color laser radiation. , 2008, , .		O
146	New approach for an electrooptic THz-detector array using Photonic Mixing Device Camera., 2009,,.		O
147	Coherent terahertz imaging with synchronized distributed-feedback diode lasers. , 2009, , .		O
148	Multi-pixel continuous-wave THz-imaging by electro-optic sampling using a photonic-mixer-device camera., 2009,,.		O
149	Terahertz responsivity enhancement of silicon CMOS transistor-based detectors using a current bias. , 2010, , .		O
150	Active video-rate camera with up to 32 detector-pixels at 812 GHz. , 2010, , .		0
151	Towards a real-time electro-optical THz microscope using a demodulating optical detector array. , $2011, \ldots$		0
152	High-Speed THz Biochip Reader System. , 2011, , .		0
153	Sensing Liquids with an Integrated Silica Fiber THz Resonator. Spectroscopy Letters, 2012, 45, 594-601.	1.0	O
154	Long-range guided THz radiation coupled in thin layers of water - A study of the propagation length characteristics. , $2013,$		0
155	Extremely low-jitter and ultra-broadband electrooptic sampling system for near field sensing of active and passive sub-THz electronic devices. , $2013, \ldots$		O
156	Amorphous silicon germanium carbide photo sensitive bipolar junction transistor with a base-contact and a continuous tunable high current gain. Thin Solid Films, 2014, 558, 430-437.	1.8	0
157	Visual Analysis of Confocal Raman Spectroscopy Data using Cascaded Transfer Function Design. Computer Graphics Forum, 2017, 36, 239-249.	3.0	O
158	Analysis of a Plasmonic Graphene Antenna for Microelectronic Applications. , 2018, , .		0
159	Towards Polarization-Resolved all-Electronic Thz-Nanoscopy. , 2018, , .		O
160	Sensitivity Enhancement for Asymmetric Split Ring Resonators in a Vertical Coupling Geometry. , 2018, , .		O
161	Integrated THz technologies for femtomol sensitivity label-free detection of DNA. Springer Series in Chemical Physics, 2003, , 301-303.	0.2	0
162	Coupling and cm propagation of long-range guided THz radiation in thin layers of water., 2013,,.		O

#	Article	IF	CITATIONS
163	Observation of Bloch Oscillations in a Semiconductor Superlattice. , 1993, , .		0
164	Intraband Coherence after Energy Relaxation. Springer Series in Chemical Physics, 1998, , 263-265.	0.2	0
165	Advanced signal processing techniques for THz imaging and sensing enhancement in material quality control applications., 2019,,.		O
166	Ultraâ€broadband quantification of CMOS varactors based on vector standing wave measurements in a nonâ€linear transmission line. IET Microwaves, Antennas and Propagation, 2019, 13, 849-853.	1.4	0
167	Highâ€speed focusâ€induced photoresponse in amorphous silicon photodetectors for optical distance measurements. Electronics Letters, 2022, 58, 330-332.	1.0	0