Peter Haring BolÃ-var

List of Publications by Year in descending order

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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	Substrate-integrated microfluidics for sensitive biosensing with complementary THz metamaterials in water. Applied Physics Letters, 2022, 120 , .	3.3	6
2	Deep Optimization Prior for THz Model Parameter Estimation. , 2022, , .		2
3	Highâ€speed focusâ€induced photoresponse in amorphous silicon photodetectors for optical distance measurements. Electronics Letters, 2022, 58, 330-332.	1.0	O
4	High-Sensitivity Focus-Induced Photoresponse in Amorphous Silicon Photodiodes for Enhanced Three-Dimensional Imaging Sensors. Physical Review Applied, 2022, 17, .	3.8	5
5	High-speed nonlinear focus-induced photoresponse in amorphous silicon photodetectors for ultrasensitive 3D imaging applications. Scientific Reports, 2022, 12, .	3.3	3
6	Multifrequency Investigation of Single- and Double-Stranded DNA with Scalable Metamaterial-Based THz Biosensors. Biosensors, 2022, 12, 483.	4.7	6
7	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
8	THz Detection of Biomolecules in Aqueous Environmentsâ€"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
9	Aspects of Signal Processing for Multistatic Terahertz Imaging Systems. , 2021, , .		3
10	Ultrasensitive THz biosensor for PCR-free cDNA detection based on frequency selective surfaces. Biomedical Optics Express, 2020, 11, 448.	2.9	24
11	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
12	Uncertainty Quantization of Fano Resonance Frequency Shift Measurement., 2019, , .		1
13	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
14	Few-Layer MoS ₂ /a-Si:H Heterojunction Pin-Photodiodes for Extended Infrared Detection. ACS Photonics, 2019, 6, 1372-1378.	6.6	15
15	Substrate-enhanced THz nanoscopic recognition of single bacteria. , 2019, , .		1
16	Training Auto-Encoder-Based Optimizers for Terahertz Image Reconstruction. Lecture Notes in Computer Science, 2019, , 93-106.	1.3	5
17	Advanced signal processing techniques for THz imaging and sensing enhancement in material quality control applications. , 2019 , , .		O
18	Ultraâ€broadband quantification of CMOS varactors based on vector standing wave measurements in a nonâ€inear transmission line. IET Microwaves, Antennas and Propagation, 2019, 13, 849-853.	1.4	0

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19	Influence of cocamidopropyl betaine on the formation and carbonation of portlandite $\hat{a} \in A$ microscopy study. Construction and Building Materials, 2018, 163, 793-797.	7.2	7
20	Analysis of a Plasmonic Graphene Antenna for Microelectronic Applications. , 2018, , .		0
21	Towards Polarization-Resolved all-Electronic Thz-Nanoscopy. , 2018, , .		O
22	Sensitivity Enhancement for Asymmetric Split Ring Resonators in a Vertical Coupling Geometry. , 2018, , .		0
23	Detection of Human Tumor Markers with THz Metamaterials. , 2018, , .		3
24	Reconfigurable THz Plasmonic Antenna Based on Few-Layer Graphene with High Radiation Efficiency. Nanomaterials, 2018, 8, 577.	4.1	30
25	Terahertz Modulator Based on Vertically Coupled Fano Metamaterial. IEEE Transactions on Terahertz Science and Technology, 2018, 8, 502-508.	3.1	15
26	MAC-oriented programmable terahertz PHY via graphene-based Yagi-Uda antennas. , 2018, , .		8
27	Conception and realization of a semiconductor based 240 GHz full 3D MIMO imaging system. Proceedings of SPIE, 2017, , .	0.8	6
28	High Photocurrent in Gated Graphene–Silicon Hybrid Photodiodes. ACS Photonics, 2017, 4, 1506-1514.	6.6	78
29	Study of hybrid and pure plasmonic terahertz antennas based on graphene guided-wave structures. Nano Communication Networks, 2017, 12, 34-42.	2.9	19
30	Three-Dimensional Terahertz Imaging With Sparse Multistatic Line Arrays. IEEE Journal of Selected Topics in Quantum Electronics, 2017, 23, 1-11.	2.9	52
31	Visual Analysis of Confocal Raman Spectroscopy Data using Cascaded Transfer Function Design. Computer Graphics Forum, 2017, 36, 239-249.	3.0	O
32	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
33	Material-Dependencies of the THz emission from plasmonic graphene-based photoconductive antenna structures. , 2017, , .		2
34	A Graphene Based Plasmonic Antenna Design for Communication in the THz Regime. , 2017, , .		1
35	MM-wave dispersion characteristics of a nonlinear transmission line measured by electrooptic sampling. , $2016, , .$		1
36	Error analysis of model-based frequency- and time-domain methods for THz material parameter extraction. , 2016, , .		1

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37	Illumination aspects of sparse line arrays for 3D terahertz imaging. , 2016, , .		2
38	Surveying of Pure and Hybrid Plasmonic Structures Based on Graphene for Terahertz Antenna. , 2016, , .		3
39	A sparse array based sub-terahertz imaging system for volume inspection. , 2015, , .		12
40	Electronic THz-spectrometer for plasmonic enhanced deep subwavelength layer detection. , 2015, , .		2
41	Comparison of model-based material parameter extraction in frequency- and time-domain. , 2015, , .		2
42	A sparse multistatic imaging system for terahertz volume inspection., 2015,,.		1
43	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
44	Optimizing the optical and electrical properties of graphene ink thin films by laser-annealing. 2D Materials, 2015, 2, 011003.	4.4	26
45	Towards 3-D THz volume inspection for process control. , 2014, , .		1
46	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
47	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
48	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
49	THz spectroscopy of bovine serum albumin solution using the long-range guided mode supported by thin liquid films. , 2014, , .		2
50	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
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	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
53	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
54	Broadband Terahertz Analysis of Energetic Materialsâ€"Influence of Crystal Structure and Additives. IEEE Transactions on Terahertz Science and Technology, 2013, 3, 649-655.	3.1	5

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55	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
56	Terahertz responsivity and low-frequency noise in biased silicon field-effect transistors. Applied Physics Letters, 2013, 102, 153505.	3.3	145
57	Efficient, robust, and scale-invariant decomposition of Raman spectra., 2013,,.		2
58	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
59	Diminishing relative jitter in electrooptic sampling of active mm-wave and THz circuits. Optics Express, 2013, 21, 4396.	3.4	4
60	Long-range guided THz radiation coupled in thin layers of water - A study of the propagation length characteristics. , 2013 , , .		0
61	Extremely low-jitter and ultra-broadband electrooptic sampling system for near field sensing of active and passive sub-THz electronic devices. , 2013 , , .		0
62	Coupling and cm propagation of long-range guided THz radiation in thin layers of water. , 2013, , .		0
63	High-power CW tunable solid state dye lasers: from the visible to UV. , 2012, , .		2
64	Long-range guided THz radiation by thin layers of water. Optics Express, 2012, 20, 27781.	3.4	6
65	Design of an LED-based sensor system to distinguish human skin from workpieces in safety applications. Applied Optics, 2012, 51, 1865.	1.8	11
66	Sensing Liquids with an Integrated Silica Fiber THz Resonator. Spectroscopy Letters, 2012, 45, 594-601.	1.0	0
67	Broadband Terahertz and Sub-terahertz CMOS Modules for Imaging and Spectroscopy Applications. Procedia Engineering, 2012, 47, 1491-1497.	1.2	4
68	Fast antenna-coupled terahertz detectors based on uncooled thermoelements., 2012,,.		2
69	Stand-off real-time synthetic imaging at mm-wave frequencies. , 2012, , .		8
70	200â€GHz 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
71	Terahertz responsivity enhancement and low-frequency noise study in silicon CMOS detectors using a drain current bias. , 2011, , .		2
72	High-power solid-state cw dye laser. Optics Express, 2011, 19, 26382.	3.4	20

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73	Towards a real-time electro-optical THz microscope using a demodulating optical detector array. , 2011, , .		O
74	High-Speed THz Biochip Reader System. , 2011, , .		O
75	THz Active Imaging Systems With Real-Time Capabilities. IEEE Transactions on Terahertz Science and Technology, 2011, 1, 183-200.	3.1	224
76	Allâ€electronic terahertz spectrometer for biosensing. Microwave and Optical Technology Letters, 2011, 53, 2899-2902.	1.4	6
77	Terahertz responsivity enhancement of silicon CMOS transistor-based detectors using a current bias. , 2010, , .		0
78	Active video-rate camera with up to 32 detector-pixels at 812 GHz. , 2010, , .		0
79	Hybrid Continuous-Wave Demodulating Multipixel Terahertz Imaging Systems. IEEE Transactions on Microwave Theory and Techniques, 2010, 58, 2022-2026.	4.6	6
80	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
81	THz plasmonic antennas: From metals to semiconductors. , 2010, , .		3
82	New approach for an electrooptic THz-detector array using Photonic Mixing Device Camera., 2009,,.		0
83	Coherent terahertz imaging with synchronized distributed-feedback diode lasers. , 2009, , .		O
84	Multi-pixel continuous-wave THz-imaging by electro-optic sampling using a photonic-mixer-device camera. , 2009, , .		0
85	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
86	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
87	Low cost thermopile detectors for THz imaging and sensing. , 2008, , .		2
88	Terahertz biosensors based on double split ring arrays. Proceedings of SPIE, 2008, , .	0.8	10
89	Development of a hybrid THz camera using synchronized two-color laser radiation. , 2008, , .		0
90	Surface Plasmon Polariton-based Coaxial Probe for Terahertz Near-field Microscopy., 2007,,.		1

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91	Frequency Selective Surfaces for High-Sensitivity Terahertz Sensors., 2007,,.		5
92	Analysis of the propagation of terahertz surface plasmon polaritons on semiconductor groove gratings. Journal of Applied Physics, 2007, 101, 023707.	2.5	25
93	Frequency selective surfaces for high sensitivity terahertz sensing. Applied Physics Letters, 2007, 91, .	3.3	268
94	Towards cost-efficient THz biochip technologies. , 2007, , .		3
95	Recent Advances in Photonic Crystals and Metamaterials. , 2007, , .		0
96	Low-frequency active surface plasmon optics on semiconductors. Applied Physics Letters, 2006, 88, 082106.	3.3	112
97	Lateral phase change random access memory cell design for low power operation. Microsystem Technologies, 2006, 13, 169-172.	2.0	21
98	Optically switchable mirrors for surface plasmon polaritons propagating on semiconductor surfaces. Physical Review B, 2006, 74, .	3.2	46
99	Metamaterials technology for sub-mm wave imaging. , 2006, , .		0
100	Highly selective etch process for silicon-on-insulator nano-devices. Microelectronic Engineering, 2005, 78-79, 212-217.	2.4	32
101	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
102	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
103	Modular parallel-plate THz components for cost-efficient biosensing systems. Semiconductor Science and Technology, 2005, 20, S281-S285.	2.0	34
104	Transmission of THz radiation through InSb gratings of subwavelength apertures. Optics Express, 2005, 13, 847.	3.4	169
105	All-optical switching of the transmission of electromagnetic radiation through subwavelength apertures. Optics Letters, 2005, 30, 2357.	3.3	84
106	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
107	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
108	Label–free THz sensing of genetic sequences: towards †THz biochips'. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2004, 362, 323-335.	3.4	76

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109	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
110	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
111	Propagation of Surface Plasmon Polaritons on Semiconductor Gratings. Physical Review Letters, 2004, 93, 256804.	7.8	141
112	Intraband coherence of Bloch oscillations after momentum scattering. Applied Physics A: Materials Science and Processing, 2004, 78, 491-495.	2.3	0
113	Optimization of enhanced terahertz transmission through arrays of subwavelength apertures. Physical Review B, 2004, 69, .	3.2	43
114	Time-domain measurements of surface plasmon polaritons in the terahertz frequency range. Physical Review B, 2004, 69, .	3.2	153
115	Thermal switching of the enhanced transmission of terahertz radiation through subwavelength apertures. Optics Letters, 2004, 29, 1680.	3.3	47
116	Ultrahigh-quality-factor silicon-on-insulator microring resonator. Optics Letters, 2004, 29, 2861.	3.3	262
117	Photonic engineering of nonlinear-optical properties of hybrid materials for efficient ultrafast optical switching (PHOENIX)., 2004, 5464, 39.		0
118	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
119	Low-temperature THz imaging of thin high-temperature superconductor films. Physica C: Superconductivity and Its Applications, 2003, 399, 53-60.	1.2	5
120	Asymmetrically coupled silicon-on-insulator microring resonators for compact add-drop multiplexers. IEEE Photonics Technology Letters, 2003, 15, 921-923.	2.5	111
121	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
122	A functionalized THz sensor for marker-free DNA analysis. Physics in Medicine and Biology, 2003, 48, 3625-3636.	3.0	135
123	Improved coherent terahertz emission by modification of the dielectric environment. Applied Physics Letters, 2003, 83, 4196-4198.	3.3	8
124	Inversionless amplification of coherent terahertz radiation. Physical Review B, 2003, 67, .	3.2	9
125	Enhanced transmission of THz radiation through subwavelength holes. Physical Review B, 2003, 68, .	3.2	221
126	Integrated THz technologies for femtomol sensitivity label-free detection of DNA. Springer Series in Chemical Physics, 2003, , 301-303.	0.2	0

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127	Combined optical and spatial modulation THz-spectroscopy for the analysis of thin-layered systems. Applied Physics Letters, 2002, 81, 1791-1793.	3.3	23
128	Label-free probing of genes by time-domain terahertz sensing. Physics in Medicine and Biology, 2002, 47, 3815-3821.	3.0	81
129	Integrated planar terahertz resonators for femtomolar sensitivity label-free detection of DNA hybridization. Applied Optics, 2002, 41, 2074.	2.1	72
130	Integrated THz technology for label-free genetic diagnostics. Applied Physics Letters, 2002, 80, 154-156.	3.3	483
131	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
132	Characterization of Ge–Sb–Te thin films deposited using a composition-spread approach. Thin Solid Films, 2001, 398-399, 379-384.	1.8	12
133	<title>Ge-Sb-Te system for rewritable optical data storage by a composition-spread approach</title> ., 2001, 4281, 51.		1
134	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
135	Characterization of polypropylene thin-film microstrip lines at millimeter and submillimeter wavelengths. Microwave and Optical Technology Letters, 2001, 29, 97-100.	1.4	10
136	Deposition and characterization of Ge–Sb–Te layers for applications in optical data storage. Applied Surface Science, 2001, 179, 55-60.	6.1	24
137	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
138	Label-free probing of the binding state of DNA by time-domain terahertz sensing. Applied Physics Letters, 2000, 77, 4049-4051.	3.3	383
139	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
140	Excitation process of two-dimensional plasmons excited by femtosecond laser pulses. Microelectronic Engineering, 1999, 47, 289-292.	2.4	1
141	Influence of carrier–carrier scattering on intraband dephasing. Superlattices and Microstructures, 1999, 26, 93-102.	3.1	6
142	Intraband Coherence after Energy Relaxation. Springer Series in Chemical Physics, 1998, , 263-265.	0.2	0
143	Femtosecond coherent polariton dynamics in the layered III-VI semiconductor InSe. Physical Review B, 1997, 55, 4620-4627.	3.2	47
144	Carrier cooling and exciton formation in GaSe. Physical Review B, 1997, 56, 4578-4583.	3.2	30

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145	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
146	The resonant interband contribution to the TEOS signal. Solid State Communications, 1997, 101, 167-171.	1.9	6
147	Influence of LO-Phonon Emission on Bloch Oscillations in Semiconductor Superlattices. Physica Status Solidi (B): Basic Research, 1997, 204, 83-86.	1.5	17
148	Energy transfer in molecularly doped conjugated polymers. Synthetic Metals, 1996, 78, 289-293.	3.9	44
149	Ultrafast carrier dynamics in semiconductor quantum dots. Physical Review B, 1996, 53, 1463-1467.	3.2	170
150	Optical nonlinearities and carrier trapping dynamics in CdS and CuxS nanocrystals. Superlattices and Microstructures, 1996, 20, 395-404.	3.1	49
151	Electric field-induced photoluminescence quenching in molecularly doped polymer light-emitting diodes. Chemical Physics, 1996, 207, 147-157.	1.9	43
152	Dynamics of optical excitations in a ladder-type π-conjugated polymer containing aggregate states. Physical Review B, 1996, 54, 1759-1765.	3.2	94
153	Dynamics of excitation transfer in dye doped Î-conjugated polymers. Chemical Physics Letters, 1995, 245, 534-538.	2.6	29
154	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
155	Four-wave-mixing theory beyond the semiconductor Bloch equations. Physica Status Solidi (B): Basic Research, 1995, 188, 447-456.	1.5	29
156	Linear and nonlinear transmission of CuxS quantum dots. Applied Physics Letters, 1995, 67, 653-655.	3.3	68
157	Hot-phonon effects in femtosecond luminescence spectra of electron-hole plasmas in CdS. Physical Review B, 1995, 52, 4728-4731.	3.2	68
158	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
159	Bloch oscillations of excitonic wave packets in semiconductor superlattices. Physical Review B, 1994, 50, 14389-14404.	3.2	106
160	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
161	Observation of Bloch Oscillations in a Semiconductor Superlattice. , 1993, , .		0
162	Polarization dependence of heavy- and light-hole quantum beats. Physical Review B, 1992, 46, 10460-10463.	3.2	129

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163	Observation of Bloch oscillations in a semiconductor superlattice. Solid State Communications, 1992, 84, 943-946.	1.9	286
164	Inversionless amplification of coherent THz radiation. , 0, , .		2
165	Integrated THz biomolecular sensors for DNA. , 0, , .		1
166	Wavelet filtered modelling applied to measurements of a waveguide's THz time domain response. , 0, , .		0
167	Terahertz Science, Engineering and Systems-from Space to Earth Applications. , 0, , .		35