Stefan Malzer

List of Publications by Year
in descending order

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116 papers	1,693 citations	361296 20 h-index	315616 38 g-index
119 all docs	119 docs citations	119 times ranked	1600 citing authors

#	Article	IF	Citations
1	Tunable, continuous-wave Terahertz photomixer sources and applications. Journal of Applied Physics, 2011, 109, .	1.1	393
2	Formation of subwavelength periodic structures on tungsten induced by ultrashort laser pulses. Optics Letters, 2007, 32, 1932.	1.7	96
3	Efficient terahertz emission from ballistic transport enhanced n-i-p-n-i-p superlattice photomixers. Applied Physics Letters, 2007, 90, 212115.	1.5	59
4	THz-photomixer based on quasi-ballistic transport. Semiconductor Science and Technology, 2005, 20, S178-S190.	1.0	58
5	Enhancement of optical absorption and photocurrent of 6H-SiC by laser surface nanostructuring. Applied Physics Letters, 2007, 91, .	1.5	51
6	Self-organized tungsten nanospikes grown on subwavelength ripples induced by femtosecond laser pulses. Optics Express, 2007, 15, 15741.	1.7	48
7	Coupled whispering gallery mode resonators in the Terahertz frequency range. Optics Express, 2008, 16, 7336.	1.7	48
8	Dielectric Rod Waveguide Antenna as THz Emitter for Photomixing Devices. IEEE Transactions on Antennas and Propagation, 2015, 63, 882-890.	3.1	46
9	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.	2.0	45
10	Interferometer measurements of terahertz waves from Bi₂Sr₂CaCu₂O_{8+d}mesas. Superconductor Science and Technology, 2012, 25, 125004.	1.8	40
11	Enhanced recombination tunneling in GaAs pn junctions containing low-temperature-grown-GaAs and ErAs layers. Applied Physics Letters, 2003, 83, 4035-4037.	1.5	37
12	Fabrication of genuine single-quantum-dot light-emitting diodes. Applied Physics Letters, 2006, 88, 121115.	1.5	37
13	Spin lifetimes and strain-controlled spin precession of drifting electrons in GaAs. Europhysics Letters, 2006, 75, 597-603.	0.7	35
14	Probing Semiconductor Gap States with Resonant Tunneling. Physical Review Letters, 2006, 96, 066403.	2.9	35
15	Excitonic photoluminescence in symmetric coupled double quantum wells subject to an external electric field. Physical Review B, 1999, 60, 7740-7743.	1.1	28
16	Connection of anisotropic conductivity to tip-induced space-charge layers in scanning tunneling spectroscopy of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>p</mml:mi></mml:math>-doped GaAs. Physical Review B, 2007, 76, .	1.1	23
17	Compact, low-cost, and high-resolution interrogation unit for optical sensors. Applied Physics Letters, 2006, 89, 201113.	1.5	22
18	Heteroâ€nipiband filling modulator with laterally interdigital contacts made by shadow mask molecular beam epitaxy regrowth. Applied Physics Letters, 1993, 62, 152-153.	1.5	21

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19	A combined investigation of lateral and vertical Stark effect in InAs self-assembled quantum dots in waveguide structures. Physica E: Low-Dimensional Systems and Nanostructures, 2002, 13, 283-288.	1.3	21
20	Ultrafast transport of electrons in GaAs:â€ƒDirect observation of quasiballistic motion and side valley transfer. Physical Review B, 2004, 70, .	1.1	21
21	An efficient Terahertz rectifier on the graphene/SiC materials platform. Scientific Reports, 2019, 9, 11205.	1.6	20
22	Valence-band structure of self-assembled InAs quantum dots studied by capacitance spectroscopy. Applied Physics Letters, 2003, 82, 2071-2073.	1.5	19
23	Optical Nonlinearities in nâ€“iâ€“pâ€“i and Heteroâ€nâ€“iâ€“pâ€“i Structures. Physica Status Solidi (B): Basic Research, 1992, 173, 459-472.	0.7	17
24	Diamagnetic shift of disorder-localized excitons in narrowGaAsâ•AlGaAsquantum wells. Physical Review B, 2006, 74, .	1.1	16
25	Ultra-narrow linewidth CW sub-THz generation using GS based OFCG and n-i-pn-i-p superlattice photomixers. Electronics Letters, 2012, 48, 1425.	0.5	16
26	Measurements of the Electric Field of Zero-Point Optical Phonons in GaAs Quantum Wells Support the Urbach Rule for Zero-Temperature Lifetime Broadening. Physical Review Letters, 2015, 114, 047402.	2.9	16
27	Using a quantum well heterostructure to study the longitudinal and transverse electric field components of a strongly focused laser beam. Journal of Applied Physics, 2006, 100, 023112.	1.1	15
28	From Arrays of THz Antennas to Large-Area Emitters. IEEE Transactions on Terahertz Science and Technology, 2013, 3, 532-544.	2.0	15
29	Highly collimated and directional continous-wave Terahertz emission by photomixing in semiconductor device arrays. , 2006, , .		14
30	Efficient IIIâ€“V tunneling diodes with ErAs recombination centers. Semiconductor Science and Technology, 2010, 25, 115004.	1.0	14
31	Luminescence of double quantum wells subject to in-plane magnetic fields. Physical Review B, 2005, 72, .	1.1	13
32	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.	0.6	13
33	Luminescence of coupled quantum wells:â€ƒEffects of indirect excitons in high in-plane magnetic fields. Physical Review B, 2004, 70, .	1.1	12
34	Gain Enhancement by Dielectric Horns in the Terahertz Band. IEEE Transactions on Antennas and Propagation, 2011, 59, 3164-3170.	3.1	12
35	Optical characterization of low temperature grown GaAs by transmission measurements above the band gap. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 1996, 14, 2275.	1.6	11
36	Polarization-resolved electro-absorption in InAs/GaAs quantum dots in waveguide structuresâ€”modeling of size, shape and In-content. Physica E: Low-Dimensional Systems and Nanostructures, 2003, 17, 554-556.	1.3	11

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37	Depth Resolved Scanning Tunneling Spectroscopy of Shallow Acceptors in Gallium Arsenide. Japanese Journal of Applied Physics, 2006, 45, 2193-2196.	0.8	11
38	Modulational instability and solitons in excitonic semiconductor waveguides. Physical Review B, 2011, 83, .	1.1	11
39	Arrays and New Antenna Topologies for Increasing THz Power Generation Using Photomixers. Journal of Infrared, Millimeter, and Terahertz Waves, 2013, 34, 97-108.	1.2	11
40	Atomic scale structure and optical emission ofAlxGa1âˆ’xAsâˆ•GaAsquantum wells. Physical Review B, 2007, 75, .	1.1	10
41	Fiber-Coupled 2-D n-i-pn-i-p Superlattice Photomixer Array. IEEE Transactions on Antennas and Propagation, 2017, 65, 3474-3480.	3.1	10
42	Smart pixel using a vertical cavity surface-emitting laser. Applied Physics Letters, 1997, 71, 3561-3563.	1.5	9
43	Polarized photovoltage spectroscopy study of InAsâˆ•GaAs(001) quantum dot ensembles. Applied Physics Letters, 2005, 87, 212101.	1.5	9
44	Interference between two coherently driven monochromatic terahertz sources. Applied Physics Letters, 2008, 92, 221107.	1.5	9
45	Maximization of the optical intra-cavity power of whispering-gallery mode resonators via coupling prism. Optics Express, 2016, 24, 26503.	1.7	9
46	Enhanced absorption modulation in heteronâ€•iâ€•pâ€•istructures by constructive superposition of field effect and phase space filling. Applied Physics Letters, 1994, 64, 457-459.	1.5	8
47	Effect of compensation of electron and hole scattering potentials on the optical band edge of heavily dopedGaAsâˆ•AlxGa1âˆ’xAssuperlattices. Physical Review B, 2004, 70, .	1.1	8
48	Arrayed free space continuous-wave terahertz photomixers. Optics Letters, 2013, 38, 3673.	1.7	8
49	Array of Dielectric Rod Waveguide antennas for millimeter-wave power generation. , 2015, , .		8
50	Ideal delta doping of carbon in GaAs. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2005, 23, 267.	1.6	7
51	Coherent superposition of terahertz beams. Proceedings of SPIE, 2008, , .	0.8	7
52	Properties and applications of the â€˜â€˜epitaxial shadow mask molecular beam epitaxy techniqueâ€™â€™. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 1996, 14, 2175.	1.6	6
53	Influence of disorder on the vertical transport in wide barrier superlattices. Physical Review B, 2002, 65, .	1.1	6
54	Anisotropy of quantum interference in disorderedGaAs/AlxGa1âˆ’xAssuperlattices. Physical Review B, 2003, 68, .	1.1	6

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55	Continuous wave terahertz emitter arrays for spectroscopy and imaging applications. Proceedings of SPIE, 2010, , .	0.8	6
56	Light-field-driven electronics in the mid-infrared regime: Schottky rectification. Science Advances, 2022, 8, .	4.7	6
57	Investigation of deep electronic centers in low-temperature grown GaAs using extremely thin layers. Applied Physics Letters, 2000, 77, 2349-2351.	1.5	5
58	Novel concept for efficient THz-emitters based on quasi-ballistic transport in an asymmetric superlattice. Physica E: Low-Dimensional Systems and Nanostructures, 2003, 17, 629-630.	1.3	5
59	Exotic transport regime in GaAs: absence of intervalley scattering leading to quasi-ballistic, real-space THz oscillations. Semiconductor Science and Technology, 2004, 19, S195-S198.	1.0	5
60	Disorder-driven coherence-incoherence crossover in random GaAs/Al0.3Ga0.7Assuperlattices. Physical Review B, 2005, 71, .	1.1	5
61	Fiber optic based system for polarization sensitive spectroscopy of semiconductor quantum structures. Review of Scientific Instruments, 2010, 81, 083901.	0.6	5
62	Broadband THz detection and homodyne mixing using GaAs high-electron-mobility transistor rectifiers. Proceedings of SPIE, 2013, , .	0.8	5
63	Quasi-freestanding epitaxial graphene transistor with silicon nitride top gate. Journal Physics D: Applied Physics, 2014, 47, 305103.	1.3	5
64	Influence of gas on cutting silicon with solid state laser. , 2004, , .		4
65	Optical far-IR wave generation - state-of-the-art and advanced device structures. , 2004, , .		4
66	THz collective oscillations of ballistic electrons in wide potential wells: Bridging classical transport with quantum dynamics. Europhysics Letters, 2005, 70, 534-540.	0.7	4
67	Luminescence of indirect excitons in high in-plane magnetic fields. Physica E: Low-Dimensional Systems and Nanostructures, 2005, 30, 1-6.	1.3	4
68	Femtosecond spectroscopy of unipolar nanometer-scale high-field transport of holes in Al0.08Ga0.92As. Applied Physics Letters, 2005, 86, 142105.	1.5	4
69	TE- and TM-polarization-resolved spectroscopy on quantum wells under normal incidence. Physica E: Low-Dimensional Systems and Nanostructures, 2006, 32, 241-244.	1.3	4
70	Ultrafast spectroscopy of impact ionization and avalanche multiplication in GaAs. Applied Physics Letters, 2006, 88, 132113.	1.5	4
71	Polarization sensitive lateral photoconductivity in GaAs/AlGaAs quantum well based structures on low-temperature grown GaAs(001). Applied Physics Letters, 2010, 97, .	1.5	4
72	Terahertz generation with ballistic photodiodes under pulsed operation. Semiconductor Science and Technology, 2018, 33, 114015.	1.0	4

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73	Many body effects and charge carrier kinetics studied by electro-optical experiments in type-I hetero n-i-p-i structures with selective contacts. Solid-State Electronics, 1996, 40, 683-686.	0.8	3
74	Electroluminescence of Self-Assembled InAs Quantum Dots in p-i-n Diodes. Physica Status Solidi (B): Basic Research, 2001, 224, 129-132.	0.7	3
75	Electronic structure of self-assembled InAs quantum dots. Physica E: Low-Dimensional Systems and Nanostructures, 2002, 13, 208-211.	1.3	3
76	Ultrafast high-field transport in GaAs: direct observation of quasi-ballistic electron motion, impact ionization and avalanche multiplication. Semiconductor Science and Technology, 2004, 19, S167-S169.	1.0	3
77	THz-emitter based on ballistic transport in nano-pin diodes. Physica Status Solidi (A) Applications and Materials Science, 2005, 202, 965-969.	0.8	3
78	Influence of grain boundaries on the recombination rate in germanium. Hyperfine Interactions, 1987, 35, 723-727.	0.2	2
79	Extension of the epitaxial shadow mask MBE technique for the monolithic integration and in situ fabrication of novel device structures. Journal of Crystal Growth, 1999, 201-202, 574-577.	0.7	2
80	THz carrier oscillations in GaAs heterostructures detected via two color femtosecond pump probe spectroscopy. Physica B: Condensed Matter, 2002, 314, 154-157.	1.3	2
81	Electroluminescence of single-dot nano-LEDsâ€"optical spectroscopy of an electrically tunable few-electron/hole system. Physica E: Low-Dimensional Systems and Nanostructures, 2005, 26, 110-114.	1.3	2
82	Photoluminescence of n-doped double quantum wellâ€"electron subbands under influence of in-plane magnetic fields. Physica E: Low-Dimensional Systems and Nanostructures, 2006, 34, 284-287.	1.3	2
83	A monolithically integrated intensity-independent polarization-sensitive switch operating at 1.3Î¼m based on ordering in InGaAsP. Physica E: Low-Dimensional Systems and Nanostructures, 2006, 32, 554-557.	1.3	2
84	Optical Landau state mapping with in-plane electric fields. Physica Status Solidi C: Current Topics in Solid State Physics, 2007, 4, 279-287.	0.8	2
85	Extreme Events through Prevailing Backscattering and Their Suppression by a Focusing Nonlinearity. Physical Review X, 2018, 8, .	2.8	2
86	Photoreflectance spectra of a GaAs/AlGaAs type I hetero-n-i-p-i structure. Superlattices and Microstructures, 1992, 11, 41-46.	1.4	1
87	In-situ structured MBE-grown crystals for applications in optoelectronics. , 1993, 1985, 105.		1
88	Constructive superposition of field- and carrier induced absorption changes in hetero-n-i-p-i structures. Solid-State Electronics, 1994, 37, 1251-1253.	0.8	1
89	Optical and electrical properties of quantum wells with electrically tunable two-dimensional electron density by selective contacts. Superlattices and Microstructures, 1995, 17, 141-145.	1.4	1
90	Waveguide modulator structures with soft optical confinement grown by the epitaxial shadow mask (ESM) MBE-technique. Journal of Crystal Growth, 1997, 175-176, 960-963.	0.7	1

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91	Vertical transport and relaxation mechanisms in Î´-doping superlattices. Physica E: Low-Dimensional Systems and Nanostructures, 1998, 2, 349-352.	1.3	1
92	n-Channel conductance spectroscopy of deep defects in low temperature grown GaAs. Physica B: Condensed Matter, 2001, 308-310, 1177-1180.	1.3	1
93	Electronic structure of InAs self-assembled quantum dots. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2002, 88, 238-242.	1.7	1
94	Optical and electrical spectroscopy of defects in low temperature grown GaAs. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2002, 88, 191-194.	1.7	1
95	Spin transport driven by giant ambipolar diffusion. Physica E: Low-Dimensional Systems and Nanostructures, 2002, 12, 407-411.	1.3	1
96	Intensity-independent high polarization- or wavelength-sensitive opto-electronic switches. Physica E: Low-Dimensional Systems and Nanostructures, 2002, 13, 806-810.	1.3	1
97	Regimes of quantum transport in superlattices in a weak magnetic field. Journal of Physics Condensed Matter, 2004, 16, 2447-2453.	0.7	1
98	DISORDER INDUCED COHERENCE-INCOHERENCE CROSSOVER IN RANDOM GaAs/AlGaAs SUPERLATTICES. International Journal of Modern Physics B, 2004, 18, 3629-3632.	1.0	1
99	Electron transport through triangular potential barriers with doping-induced disorder. Physical Review B, 2004, 69, .	1.1	1
100	Coherent superposition of terahertz beams from a phased linear photomixer array. , 2009, , .		1
101	Silicon Nitride as Top Gate Dielectric for Epitaxial Graphene. Materials Science Forum, 2013, 740-742, 149-152.	0.3	1
102	Ultra-wideband Dielectric Rod Waveguide antenna as photomixer-based THz emitter. , 2014, , .		1
103	Analytical study of free-space coupling of THz radiation for a new radioastronomy receiver concept. , 2017, , .		1
104	Study of free-space coupling into mm-wave whispering-gallery mode resonators for a radioastronomy receiver. , 2017, , .		1
105	Speeding-up optical nonlinearities in hetero-nÃ¢Â€Â“iÃ¢Â€Â“pÃ¢Â€Â“i-structures by recombination contacts. Physica B: Condensed Matter, 1999, 272, 499-501.	1.3	0
106	<title>High-speed low-energy photoconductive receiver with high gain</title>. , 2001, 4288, 67.		0
107	<title>Low-capacitance photoconductive detectors for extremely low optical power fabricated by focused ion-beam doping and overgrowth</title>. , 2001, , .		0
108	Stacked layers of InAs self-assembled quantum dots. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2002, 88, 243-246.	1.7	0

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109	Ballistic high-field transport in mesoscopic confining potentialsâ€”observation of THz oscillations in AlxGa1â’xAs heterostructures. Physica E: Low-Dimensional Systems and Nanostructures, 2002, 12, 454-457.	1.3	0
110	THz-emitters based on ballistic transport in semiconductor nanostructures. , 0, , .		0
111	Single quantum dot nano-LEDs - spectroscopy of an electrically controlled few-particle system. Physica Status Solidi C: Current Topics in Solid State Physics, 2005, 2, 2974-2977.	0.8	0
112	Polarisation-sensitive switch: An integrated intensity-independent solution for 1.3 Âµm based on the polarisation anisotropy of ordered InGaAsP. Physica Status Solidi (A) Applications and Materials Science, 2005, 202, 992-996.	0.8	0
113	Ballistic transport in semiconductor nanostructures: From quasi-classical oscillations to novel THz-emitters. Pramana - Journal of Physics, 2006, 67, 199-205.	0.9	0
114	Temperature dependence of indirect-exciton luminescence in in-plane magnetic field. Journal of Luminescence, 2008, 128, 1873-1875.	1.5	0
115	New antenna topology coupled to a new waveguide structure for THz radiation and propagation. , 2013, , .		0
116	On the finite semiconductor thickness effect applied to large area emitters devices for THz radiation. , 2014, , .		0