

Werner Prost

List of Publications by Year in descending order

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99
papers

1,461
citations

361413

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103
all docs

103
docs citations

103
times ranked

1630
citing authors

#	ARTICLE	IF	CITATIONS
1	Threshold logic circuit design of parallel adders using resonant tunneling devices. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2000, 8, 558-572.	3.1	118
2	Direct Determination of Minority Carrier Diffusion Lengths at Axial GaAs Nanowire p-n Junctions. Nano Letters, 2012, 12, 1453-1458.	9.1	112
3	Controllable p-type doping of GaAs nanowires during vapor-liquid-solid growth. Journal of Applied Physics, 2009, 105, .	2.5	104
4	High-Speed GaN/GaN Nanowire Array Light-Emitting Diode on Silicon(111). Nano Letters, 2015, 15, 2318-2323.	9.1	103
5	Signatures of interaction-induced helical gaps in nanowire quantum point contacts. Nature Physics, 2017, 13, 563-567.	16.7	77
6	High Transconductance MISFET With a Single InAs Nanowire Channel. IEEE Electron Device Letters, 2007, 28, 682-684.	3.9	69
7	n-Type Doping of Vapor-Liquid-Solid Grown GaAs Nanowires. Nanoscale Research Letters, 2011, 6, 65.	5.7	58
8	n-GaAs/InGaP/p-GaAs Core-Multishell Nanowire Diodes for Efficient Light-to-Current Conversion. Advanced Functional Materials, 2012, 22, 929-936.	14.9	56
9	Ballistic Transport and Exchange Interaction in InAs Nanowire Quantum Point Contacts. Nano Letters, 2016, 16, 3116-3123.	9.1	46
10	P-type doping of GaAs nanowires. Applied Physics Letters, 2008, 92, 163107.	3.3	39
11	Material and doping transitions in single GaAs-based nanowires probed by Kelvin probe force microscopy. Nanotechnology, 2009, 20, 385702.	2.6	38
12	Axial pn-junctions formed by MOVPE using DEZn and TESn in vapor-liquid-solid grown GaAs nanowires. Journal of Crystal Growth, 2011, 315, 143-147.	1.5	33
13	Toward Mobile Integrated Electronic Systems at THz Frequencies. Journal of Infrared, Millimeter, and Terahertz Waves, 2020, 41, 846-869.	2.2	32
14	Spatially resolved photoelectric performance of axial GaAs nanowire pn-diodes. Nano Research, 2011, 4, 987-995.	10.4	31
15	Analysis of ordering in GaInP by means of x-ray diffraction. Journal of Applied Physics, 1993, 73, 2770-2774.	2.5	29
16	Optical properties of heavily doped GaAs nanowires and electroluminescent nanowire structures. Nanotechnology, 2011, 22, 085702.	2.6	29
17	Resistance and dopant profiling along freestanding GaAs nanowires. Applied Physics Letters, 2013, 103, 143104.	3.3	26
18	Adiabatic Edge Channel Transport in a Nanowire Quantum Point Contact Register. Nano Letters, 2016, 16, 4569-4575.	9.1	24

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19	High-Frequency Measurements on InAs Nanowire Field-Effect Transistors Using Coplanar Waveguide Contacts. IEEE Nanotechnology Magazine, 2010, 9, 432-437.	2.0	21
20	Planar-defect characteristics and cross-sections of $\sim 001^\circ$, $\sim 111^\circ$, and $\sim 112^\circ$ InAs nanowires. Journal of Applied Physics, 2011, 109, 114320.	2.5	21
21	Sub-Nanosecond Pulse Generation using Resonant Tunneling Diodes for Impulse Radio. , 2007, , .		19
22	Ohmic contacts to n-GaAs nanowires. Journal of Applied Physics, 2011, 110, .	2.5	19
23	Surface Recombination Mechanism in Graded-Base InGaAs/InP HBTs. IEEE Transactions on Electron Devices, 2004, 51, 1044-1045.	3.0	18
24	Controlling the polarity of metalorganic vapor phase epitaxy-grown GaP on Si(111) for subsequent III-V nanowire growth. Applied Physics Letters, 2015, 106, .	3.3	18
25	Room-temperature deposition of SiNx using ECR-PECVD for semiconductor microelectronics in lift-off technique. Journal of Non-Crystalline Solids, 1995, 187, 334-339.	3.1	17
26	InAlAs/InGaAs/InP heterostructures for RTD and HBT device applications grown by LP-MOVPE using non-gaseous sources. Journal of Crystal Growth, 2000, 221, 722-729.	1.5	17
27	Subharmonic Injection Locking for Phase and Frequency Control of RTD-Based THz Oscillator. IEEE Transactions on Terahertz Science and Technology, 2020, 10, 221-224.	3.1	14
28	RF measurements and characterization of heterostructure field-effect transistors at low temperatures. IEEE Transactions on Microwave Theory and Techniques, 1989, 37, 1380-1388.	4.6	13
29	High doping performance of lattice matched GaInP on GaAs. Journal of Crystal Growth, 1992, 124, 475-482.	1.5	12
30	Current transport mechanisms and their effects on the performances of InP-based double heterojunction bipolar transistors with different base structures. Applied Physics Letters, 2004, 84, 2910-2912.	3.3	12
31	Recombination dynamics in single GaAs-nanowires with an axial heterojunction: n- versus p-doped areas. Journal of Applied Physics, 2013, 113, 174303.	2.5	12
32	Effects of (NH ₄) ₂ S passivation on the performance of graded-base InGaAs/InP HBTs. Physica Status Solidi A, 2004, 201, 1017-1021.	1.7	11
33	High performance III/V RTD and PIN diode on a silicon (001) substrate. Applied Physics A: Materials Science and Processing, 2007, 87, 539-544.	2.3	11
34	Large-Signal Modelling of sub-THz InP Triple-Barrier Resonant Tunneling Diodes. , 2020, , .		10
35	Comparison of the passivation effects on self- and non-self-aligned InP/InGaAs/InP double heterostructure bipolar transistors by low-temperature deposited SiNx. Journal of Applied Physics, 2004, 96, 777-783.	2.5	9
36	Large-signal analysis and AC modelling of sub micron resonant tunnelling diodes. , 2007, , .		9

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37	Growth of III/V resonant tunnelling diode on Si substrate with LP-MOVPE. Journal of Crystal Growth, 2003, 248, 380-383.	1.5	8
38	Polarity- and Site- Controlled Metal Organic Vapor Phase Epitaxy of 3D GaN on Si(111). Physica Status Solidi (B): Basic Research, 2018, 255, 1700485.	1.5	8
39	Mask-less MOVPE of arrayed n-GaN nanowires on site- and polarity-controlled AlN/Si templates. CrystEngComm, 2019, 21, 7476-7488.	2.6	8
40	InAs Nanowire Circuits Fabricated by Field-Assisted Self-Assembly on a Host Substrate. IEICE Transactions on Electronics, 2012, E95.C, 1369-1375.	0.6	8
41	Sulfur and low-temperature SiN _x passivation of self-aligned graded-base InGaAs/InP heterostructure bipolar transistors. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2004, 22, 1060.	1.6	7
42	Scalable high-current density RTDs with low series resistance. , 2010, , .		7
43	Investigation of charge carrier depletion in freestanding nanowires by a multi-probe scanning tunneling microscope. Nano Research, 2018, 11, 5924-5934.	10.4	7
44	Triple-Barrier Resonant-Tunnelling Diode THz Detectors with on-chip antenna. , 2019, , .		7
45	A systematic study of Ga- and N-polar GaN nanowire "shell growth by metal organic vapor phase epitaxy. CrystEngComm, 2020, 22, 5522-5532.	2.6	7
46	Single InGaAs nanowhiskers characterized by analytical transmission electron microscopy. Phase Transitions, 2006, 79, 727-737.	1.3	6
47	Sensitive high frequency envelope detectors based on triple barrier resonant tunneling diodes. , 2012, , .		5
48	Broadband THz Detection Using InP Triple-Barrier Resonant Tunneling Diode With Integrated Antenna. , 2021, , .		5
49	Spatially controlled VLS epitaxy of gallium arsenide nanowires on gallium nitride layers. CrystEngComm, 2020, 22, 1239-1250.	2.6	5
50	Modeling the Carrier Mobility in Nanowire Channel FET. Materials Research Society Symposia Proceedings, 2007, 1017, 139.	0.1	4
51	A Four-Resonant-Tunneling-Diode (4RTD) NAND/NOR Logic Gate. , 2007, , .		4
52	Integrated InGaAs pin-diode on exactly oriented silicon (001) substrate suitable for 10 Gbit/s digital applications. Conference Proceedings - Lasers and Electro-Optics Society Annual Meeting-LEOS, 2007, , .	0.0	4
53	High frequency characterisation of single InAs nanowire field-effect transistors. , 2008, , .		4
54	Scalable Electrical Properties of Axial GaAs Nanowire pn-Diodes. Journal of Electronic Materials, 2012, 41, 809-812.	2.2	4

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55	Hot electrons in a nanowire hard X-ray detector. Nature Communications, 2020, 11, 4729.	12.8	4
56	Characterisation of GaAs nanowhiskers grown on GaAs and Si substrates. , 0, , .		3
57	Local Electrical Analysis of a Single Semiconductor Nanowire by Kelvin Probe Force Microscopy. AIP Conference Proceedings, 2010, , .	0.4	3
58	Electrical characterization and transport model of n-gallium nitride nanowires. Applied Physics Letters, 2015, 107, 082103.	3.3	3
59	Antenna design for subharmonic injection-locked triple barrier RTD oscillator in the 300 GHz band. , 2019, , .		3
60	Transmitarray Element Design for Subharmonic Injection-locked RTD Oscillators in THz Band. , 2019, , .		3
61	Charge transport in GaAs nanowires: interplay between conductivity through the interior and surface conductivity. Journal of Physics Condensed Matter, 2019, 31, 074004.	1.8	3
62	nâ€Doped InGaP Nanowire Shells in GaAs/InGaP Coreâ€Shell pâ€n Junctions. Physica Status Solidi (B): Basic Research, 2020, 257, 1900358.	1.5	3
63	Tunnelingâ€Related Leakage Currents in Coaxial GaAs/InGaP Nanowire Heterojunction Bipolar Transistors. Physica Status Solidi (B): Basic Research, 2021, 258, 2000395.	1.5	3
64	There is Plenty of Room for THz Tunneling Electron Devices Beyond the Transit Time Limit. IEEE Electron Device Letters, 2021, 42, 224-227.	3.9	3
65	Buffer optimization for INP-ON-SI [001] quasi-substrates. , 0, , .		2
66	An experimental 4RTD logic gate. , 0, , .		2
67	High-speed InP-based resonant tunnelling diode on silicon substrate. , 0, , .		2
68	Low-Temperature DC and RF Measurement and Modelling of InGaAs-InAlAs Resonant Tunneling Diodes down to 15 K. , 2006, , .		2
69	Single n-InAs Nanowire MIS-Field-Effect Transistor: Experimental and Simulation Results. , 2007, , .		2
70	Coplanar Contact Pattern for single InAs Nanowire FET. , 2008, , .		2
71	On the temporal behavior of dc and rf characteristics of InAs nanowire MISFET. , 2009, , .		2
72	Fabrication and RF performance of InAs nanowire FET. , 2010, , .		2

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73	Broadband millimeter-wave detector based on triple-barrier resonant tunneling diode and tailored archimedean spiral antenna. , 2017, , .		2
74	Process Development for Wet- H_2O_2 -Chemical Surface Functionalization of Gallium Arsenide Based Nanowires. Physica Status Solidi (B): Basic Research, 2019, 256, 1800678.	1.5	2
75	The accurate predictions of THz quantum currents requires a new displacement current coefficient instead of the traditional transmission one. , 2020, , .		2
76	Design of a 1-to-4 Subarray Element for Wireless Subharmonic Injection in the THz Band. , 2021, , .		2
77	THz Detectors and Emitters with On-Chip Antenna aligned on Hyper-Hemispherical Silicon Lenses. , 2021, , .		2
78	Polarity-controlled AlN/Si templates by in situ oxide desorption for variably arrayed MOVPE-GaN nanowires. Journal of Crystal Growth, 2021, 566-567, 126162.	1.5	2
79	Fabrication and Electrical Characterisation of n-InAs Single Nanowhisker Field-Effect Transistors. , 0, , .		1
80	ICP-RIE etching of self-aligned InP based HBTs with Cl_2/N_2 chemistry. Microelectronic Engineering, 2011, 88, 1601-1605.	2.4	1
81	Toward Nanowire HBT: Reverse Current Reduction in Coaxial GaAs/InGaP n(i)p and n(i)pn Core-Multishell Nanowires. Physica Status Solidi (A) Applications and Materials Science, 2018, 216, 1800562.	1.8	1
82	Characterization of the Effective Tunneling Time and Phase Relaxation Time in Triple-Barrier Resonant Tunneling Diodes. , 2019, , .		1
83	III-V Semiconductor Nanowire Transistors. , 2011, , 129-144.		1
84	Manufacturability and electrical characteristics of Si/SiGe interband tunnelling diodes. , 0, , .		0
85	Monostable-Bistable Threshold Logic Elements in a fully complementary optical receiver circuit for high frequency applications. , 2008, , .		0
86	Spatially resolved photovoltaic performance of axial GaAs nanowire pn-diodes. , 2011, , .		0
87	Single GaAs nanowire photovoltaic devices under very high power illumination. , 2012, , .		0
88	Junction field-effect transistor based on GaAs core-shell nanowires. , 2013, , .		0
89	Spintronics with semiconductor nanowires. , 2016, , .		0
90	Germanium Template Assisted Integration of Gallium Arsenide Nanocrystals on Silicon: A Versatile Platform for Modern Optoelectronic Materials. Advanced Optical Materials, 2018, 6, 1701329.	7.3	0

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91	III-V Semiconductor Nanowire Transistors. , 2011, , 129-144.		0
92	III/V Nanowires for Electronic and Optoelectronic Applications. Nanoscience and Technology, 2012, , 357-385.	1.5	0
93	Technology for III/V-Semiconductor HFET Devices. , 1991, , 277-313.		0
94	Halbleiterkristallzucht (GaAs). , 1997, , 19-23.		0
95	Bauelementtechnologie. , 1997, , 115-167.		0
96	Umweltschutz und Arbeitssicherheit. , 1997, , 169-183.		0
97	Material-Charakterisierung von Halbleiter-Heterostrukturen. , 1997, , 69-91.		0
98	Abscheidung und Charakterisierung dielektrischer Schichten. , 1997, , 93-113.		0
99	Herstellung aktiver Bauelementschichten. , 1997, , 25-68.		0