

# Werner Prost

## List of Publications by Year in descending order

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99  
papers

1,461  
citations

361413

20  
h-index

361022

35  
g-index

103  
all docs

103  
docs citations

103  
times ranked

1630  
citing authors

#	ARTICLE	IF	CITATIONS
1	Tunneling-Related Leakage Currents in Coaxial GaAs/InGaP Nanowire Heterojunction Bipolar Transistors. <i>Physica Status Solidi (B): Basic Research</i> , 2021, 258, 2000395.	1.5	3
2	There is Plenty of Room for THz Tunneling Electron Devices Beyond the Transit Time Limit. <i>IEEE Electron Device Letters</i> , 2021, 42, 224-227.	3.9	3
3	Design of a 1-to-4 Subarray Element for Wireless Subharmonic Injection in the THz Band. , 2021, , .		2
4	THz Detectors and Emitters with On-Chip Antenna aligned on Hyper-Hemispherical Silicon Lenses. , 2021, , .		2
5	Polarity-controlled AlN/Si templates by in situ oxide desorption for variably arrayed MOVPE-GaN nanowires. <i>Journal of Crystal Growth</i> , 2021, 566-567, 126162.	1.5	2
6	Broadband THz Detection Using InP Triple-Barrier Resonant Tunneling Diode With Integrated Antenna. , 2021, , .		5
7	n- $\delta$ -Doped InGaP Nanowire Shells in GaAs/InGaP Core-Shell Junctions. <i>Physica Status Solidi (B): Basic Research</i> , 2020, 257, 1900358.	1.5	3
8	The accurate predictions of THz quantum currents requires a new displacement current coefficient instead of the traditional transmission one. , 2020, , .		2
9	A systematic study of Ga- and N-polar GaN nanowire-shell growth by metal organic vapor phase epitaxy. <i>CrystEngComm</i> , 2020, 22, 5522-5532.	2.6	7
10	Hot electrons in a nanowire hard X-ray detector. <i>Nature Communications</i> , 2020, 11, 4729.	12.8	4
11	Large-Signal Modelling of sub-THz InP Triple-Barrier Resonant Tunneling Diodes. , 2020, , .		10
12	Toward Mobile Integrated Electronic Systems at THz Frequencies. <i>Journal of Infrared, Millimeter, and Terahertz Waves</i> , 2020, 41, 846-869.	2.2	32
13	Subharmonic Injection Locking for Phase and Frequency Control of RTD-Based THz Oscillator. <i>IEEE Transactions on Terahertz Science and Technology</i> , 2020, 10, 221-224.	3.1	14
14	Spatially controlled VLS epitaxy of gallium arsenide nanowires on gallium nitride layers. <i>CrystEngComm</i> , 2020, 22, 1239-1250.	2.6	5
15	Antenna design for subharmonic injection-locked triple barrier RTD oscillator in the 300 GHz band. , 2019, , .		3
16	Characterization of the Effective Tunneling Time and Phase Relaxation Time in Triple-Barrier Resonant Tunneling Diodes. , 2019, , .		1
17	Triple-Barrier Resonant-Tunnelling Diode THz Detectors with on-chip antenna. , 2019, , .		7
18	Process Development for Wet-Chemical Surface Functionalization of Gallium Arsenide Based Nanowires. <i>Physica Status Solidi (B): Basic Research</i> , 2019, 256, 1800678.	1.5	2

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19	Transmitarray Element Design for Subharmonic Injection-locked RTD Oscillators in THz Band. , 2019, , .		3
20	Mask-less MOVPE of arrayed n-GaN nanowires on site- and polarity-controlled AlN/Si templates. CrystEngComm, 2019, 21, 7476-7488.	2.6	8
21	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
22	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
23	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
24	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
25	Investigation of charge carrier depletion in freestanding nanowires by a multi-probe scanning tunneling microscope. Nano Research, 2018, 11, 5924-5934.	10.4	7
26	Signatures of interaction-induced helical gaps in nanowire quantum point contacts. Nature Physics, 2017, 13, 563-567.	16.7	77
27	Broadband millimeter-wave detector based on triple-barrier resonant tunneling diode and tailored archimedean spiral antenna. , 2017, , .		2
28	Ballistic Transport and Exchange Interaction in InAs Nanowire Quantum Point Contacts. Nano Letters, 2016, 16, 3116-3123.	9.1	46
29	Spintronics with semiconductor nanowires. , 2016, , .		0
30	Adiabatic Edge Channel Transport in a Nanowire Quantum Point Contact Register. Nano Letters, 2016, 16, 4569-4575.	9.1	24
31	Electrical characterization and transport model of n-gallium nitride nanowires. Applied Physics Letters, 2015, 107, 082103.	3.3	3
32	High-Speed GaN/GaN Nanowire Array Light-Emitting Diode on Silicon(111). Nano Letters, 2015, 15, 2318-2323.	9.1	103
33	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
34	Junction field-effect transistor based on GaAs core-shell nanowires. , 2013, , .		0
35	Resistance and dopant profiling along freestanding GaAs nanowires. Applied Physics Letters, 2013, 103, 143104.	3.3	26
36	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

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37	Single GaAs nanowire photovoltaic devices under very high power illumination. , 2012, , .		0
38	Direct Determination of Minority Carrier Diffusion Lengths at Axial GaAs Nanowire p-n Junctions. Nano Letters, 2012, 12, 1453-1458.	9.1	112
39	Sensitive high frequency envelope detectors based on triple barrier resonant tunneling diodes. , 2012, , .		5
40	Scalable Electrical Properties of Axial GaAs Nanowire pn-Diodes. Journal of Electronic Materials, 2012, 41, 809-812.	2.2	4
41	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
42	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
43	III/V Nanowires for Electronic and Optoelectronic Applications. Nanoscience and Technology, 2012, , 357-385.	1.5	0
44	n-Type Doping of Vapor-Liquid-Solid Grown GaAs Nanowires. Nanoscale Research Letters, 2011, 6, 65.	5.7	58
45	Spatially resolved photovoltaic performance of axial GaAs nanowire pn-diodes. , 2011, , .		0
46	Spatially resolved photoelectric performance of axial GaAs nanowire pn-diodes. Nano Research, 2011, 4, 987-995.	10.4	31
47	ICP-RIE etching of self-aligned InP based HBTs with Cl <sub>2</sub> /N <sub>2</sub> chemistry. Microelectronic Engineering, 2011, 88, 1601-1605.	2.4	1
48	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
49	Planar-defect characteristics and cross-sections of $\{001\}$ , $\{111\}$ , and $\{112\}$ InAs nanowires. Journal of Applied Physics, 2011, 109, 114320.	2.5	21
50	Ohmic contacts to n-GaAs nanowires. Journal of Applied Physics, 2011, 110, .	2.5	19
51	Optical properties of heavily doped GaAs nanowires and electroluminescent nanowire structures. Nanotechnology, 2011, 22, 085702.	2.6	29
52	III-V Semiconductor Nanowire Transistors. , 2011, , 129-144.		1
53	III-V Semiconductor Nanowire Transistors. , 2011, , 129-144.		0
54	Local Electrical Analysis of a Single Semiconductor Nanowire by Kelvin Probe Force Microscopy. AIP Conference Proceedings, 2010, , .	0.4	3

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55	Fabrication and RF performance of InAs nanowire FET. , 2010, , .		2
56	High-Frequency Measurements on InAs Nanowire Field-Effect Transistors Using Coplanar Waveguide Contacts. IEEE Nanotechnology Magazine, 2010, 9, 432-437.	2.0	21
57	Scalable high-current density RTDs with low series resistance. , 2010, , .		7
58	Controllable p-type doping of GaAs nanowires during vapor-liquid-solid growth. Journal of Applied Physics, 2009, 105, .	2.5	104
59	Material and doping transitions in single GaAs-based nanowires probed by Kelvin probe force microscopy. Nanotechnology, 2009, 20, 385702.	2.6	38
60	On the temporal behavior of dc and rf characteristics of InAs nanowire MISFET. , 2009, , .		2
61	Monostable-Bistable Threshold Logic Elements in a fully complementary optical receiver circuit for high frequency applications. , 2008, , .		0
62	Coplanar Contact Pattern for single InAs Nanowire FET. , 2008, , .		2
63	High frequency characterisation of single InAs nanowire field-effect transistors. , 2008, , .		4
64	P-type doping of GaAs nanowires. Applied Physics Letters, 2008, 92, 163107.	3.3	39
65	High Transconductance MISFET With a Single InAs Nanowire Channel. IEEE Electron Device Letters, 2007, 28, 682-684.	3.9	69
66	Sub-Nanosecond Pulse Generation using Resonant Tunneling Diodes for Impulse Radio. , 2007, , .		19
67	Modeling the Carrier Mobility in Nanowire Channel FET. Materials Research Society Symposia Proceedings, 2007, 1017, 139.	0.1	4
68	A Four-Resonant-Tunneling-Diode (4RTD) NAND/NOR Logic Gate. , 2007, , .		4
69	Single n-InAs Nanowire MIS-Field-Effect Transistor: Experimental and Simulation Results. , 2007, , .		2
70	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
71	Large-signal analysis and AC modelling of sub micron resonant tunnelling diodes. , 2007, , .		9
72	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

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73	Low-Temperature DC and RF Measurement and Modelling of InGaAs-InAlAs Resonant Tunneling Diodes down to 15 K. , 2006, , .		2
74	Single InGaAs nanowhiskers characterized by analytical transmission electron microscopy. Phase Transitions, 2006, 79, 727-737.	1.3	6
75	Sulfur and low-temperature SiN <sub>[sub x]</sub> 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
76	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
77	Comparison of the passivation effects on self- and non-self-aligned InP/InGaAs/InP double heterostructure bipolar transistors by low-temperature deposited SiN <sub>x</sub> . Journal of Applied Physics, 2004, 96, 777-783.	2.5	9
78	Surface Recombination Mechanism in Graded-Base InGaAs-InP HBTs. IEEE Transactions on Electron Devices, 2004, 51, 1044-1045.	3.0	18
79	Effects of (NH <sub>4</sub> ) <sub>2</sub> S passivation on the performance of graded-base InGaAs/InP HBTs. Physica Status Solidi A, 2004, 201, 1017-1021.	1.7	11
80	Growth of III/V resonant tunnelling diode on Si substrate with LP-MOVPE. Journal of Crystal Growth, 2003, 248, 380-383.	1.5	8
81	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
82	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
83	Halbleiterkristallzucht (GaAs). , 1997, , 19-23.		0
84	Bauelementtechnologie. , 1997, , 115-167.		0
85	Umweltschutz und Arbeitssicherheit. , 1997, , 169-183.		0
86	Material-Charakterisierung von Halbleiter-Heterostrukturen. , 1997, , 69-91.		0
87	Abscheidung und Charakterisierung dielektrischer Schichten. , 1997, , 93-113.		0
88	Herstellung aktiver Bauelementschichten. , 1997, , 25-68.		0
89	Room-temperature deposition of SiN <sub>x</sub> using ECR-PECVD for semiconductor microelectronics in lift-off technique. Journal of Non-Crystalline Solids, 1995, 187, 334-339.	3.1	17
90	Analysis of ordering in GaInP by means of x-ray diffraction. Journal of Applied Physics, 1993, 73, 2770-2774.	2.5	29

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91	High doping performance of lattice matched GaInP on GaAs. Journal of Crystal Growth, 1992, 124, 475-482.	1.5	12
92	Technology for III/V-Semiconductor HFET Devices. , 1991, , 277-313.		0
93	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
94	Buffer optimization for INP-ON-SI [001] quasi-substrates. , 0, , .		2
95	Manufacturability and electrical characteristics of Si/SiGe interband tunnelling diodes. , 0, , .		0
96	An experimental 4RTD logic gate. , 0, , .		2
97	Characterisation of GaAs nanowhiskers grown on GaAs and Si substrates. , 0, , .		3
98	High-speed InP-based resonant tunnelling diode on silicon substrate. , 0, , .		2
99	Fabrication and Electrical Characterisation of n-InAs Single Nanowhisker Field-Effect Transistors. , 0, , .		1