Heike Riel

List of Publications by Year
in descending order

56 papers	6,394 citations	117625 34 h-index	197818 49 g-index
57 all docs	57 docs citations	57 times ranked	6865 citing authors

#	Article	IF	Citations
1	Tunnel field-effect transistors as energy-efficient electronic switches. Nature, 2011, 479, 329-337.	27.8	2,448
2	Realization of a Silicon Nanowire Vertical Surround-Gate Field-Effect Transistor. Small, 2006, 2, 85-88.	10.0	361
3	Toward Nanowire Electronics. IEEE Transactions on Electron Devices, 2008, 55, 2827-2845.	3.0	316
4	Donor deactivation in silicon nanostructures. Nature Nanotechnology, 2009, 4, 103-107.	31.5	308
5	Reversible and Controllable Switching of a Single-Molecule Junction. Small, 2006, 2, 973-977.	10.0	268
6	IIIâ€“V compound semiconductor transistorsâ€”from planar to nanowire structures. MRS Bulletin, 2014, 39, 668-677.	3.5	251
7	Statistical Approach to Investigating Transport through Single Molecules. Physical Review Letters, 2007, 98, 176807.	7.8	188
8	Temperature mapping of operating nanoscale devices by scanning probe thermometry. Nature Communications, 2016, 7, 10874.	12.8	172
9	Trap-Assisted Tunneling in Si-InAs Nanowire Heterojunction Tunnel Diodes. Nano Letters, 2011, 11, 4195-4199.	9.1	147
10	Transport Properties of a Single-Molecule Diode. ACS Nano, 2012, 6, 4931-4939.	14.6	143
11	Vertical IIIâ€“V Nanowire Device Integration on Si(100). Nano Letters, 2014, 14, 1914-1920.	9.1	143
12	Quantitative Thermometry of Nanoscale Hot Spots. Nano Letters, 2012, 12, 596-601.	9.1	125
13	Vertical InAs-Si Gate-All-Around Tunnel FETs Integrated on Si Using Selective Epitaxy in Nanotube Templates. IEEE Journal of the Electron Devices Society, 2015, 3, 176-183.	2.1	104
14	High-Conductive Organometallic Molecular Wires with Delocalized Electron Systems Strongly Coupled to Metal Electrodes. Nano Letters, 2014, 14, 5932-5940.	9.1	87
15	Organometallic Single-Molecule Electronics: Tuning Electron Transport through X(diphosphine)₂FeC₄Fe(diphosphine)₂X Building Blocks by Varying the Feâ€“Xâ€“Au Anchoring Scheme from Coordinative to Covalent. Journal of the American Chemical Society, 2014, 136, 14560-14569.	13.7	74
16	Fully Depleted Nanowire Field-Effect Transistor in Inversion Mode. Small, 2007, 3, 230-234.	10.0	67
17	Thermal Transport into Graphene through Nanoscopic Contacts. Physical Review Letters, 2013, 111, 205901.	7.8	67
18	Lateral InAs/Si p-Type Tunnel FETs Integrated on Siâ€”Part 2: Simulation Study of the Impact of Interface Traps. IEEE Transactions on Electron Devices, 2016, 63, 4240-4247.	3.0	66

#	Article	IF	Citations
19	Mapping Active Dopants in Single Silicon Nanowires Using Off-Axis Electron Holography. Nano Letters, 2009, 9, 3837-3843.	9.1	63
20	Charge Transport Through a Cardanâ€Joint Molecule. Small, 2008, 4, 2229-2235.	10.0	60
21	Room-Temperature Lasing from Monolithically Integrated GaAs Microdisks on Silicon. ACS Nano, 2018, 12, 2169-2175.	14.6	59
22	High-Mobility GaSb Nanostructures Cointegrated with InAs on Si. ACS Nano, 2017, 11, 2554-2560.	14.6	56
23	InAs nanowire growth on oxide-masked ã€ˆ111ã€‰ silicon. Journal of Crystal Growth, 2012, 344, 31-37.	1.5	54
24	Towards Nanowire Tandem Junction Solar Cells on Silicon. IEEE Journal of Photovoltaics, 2018, 8, 733-740.	2.5	53
25	Silicon Nanowire Esaki Diodes. Nano Letters, 2012, 12, 699-703.	9.1	49
26	Mechanisms of template-assisted selective epitaxy of InAs nanowires on Si. Journal of Applied Physics, 2015, 117, .	2.5	49
27	Influence of the Anchor Group on Charge Transport through Singleâ€Molecule Junctions. ChemPhysChem, 2011, 12, 1677-1682.	2.1	46
28	Selective area growth of IIIâ€“V nanowires and their heterostructures on silicon in a nanotube template: towards monolithic integration of nano-devices. Nanotechnology, 2013, 24, 225304.	2.6	45
29	Using the Seebeck coefficient to determine charge carrier concentration, mobility, and relaxation time in InAs nanowires. Applied Physics Letters, 2014, 104, .	3.3	44
30	Charge Transport through Molecular Rods with Reduced Ï€â€Conjugation. ChemPhysChem, 2008, 9, 2252-2258.	2.1	43
31	Ballistic One-Dimensional InAs Nanowire Cross-Junction Interconnects. Nano Letters, 2017, 17, 2596-2602.	9.1	43
32	Tunneling and Occupancy Probabilities: How Do They Affect Tunnel-FET Behavior?. IEEE Electron Device Letters, 2013, 34, 726-728.	3.9	41
33	Nanoscale thermometry by scanning thermal microscopy. Review of Scientific Instruments, 2016, 87, 074902.	1.3	39
34	Lateral InAs/Si p-Type Tunnel FETs Integrated on Siâ€”Part 1: Experimental Devices. IEEE Transactions on Electron Devices, 2016, 63, 4233-4239.	3.0	35
35	Kelvin probe force microscopy for local characterisation of active nanoelectronic devices. Beilstein Journal of Nanotechnology, 2015, 6, 2193-2206.	2.8	32
36	A statistical approach to inelastic electron tunneling spectroscopy on fullerene-terminated molecules. Physical Chemistry Chemical Physics, 2011, 13, 14325.	2.8	30

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37	Nanoelectrical analysis of single molecules and atomic-scale materials at the solid/liquid interface. Nature Materials, 2014, 13, 947-953.	27.5	28
38	Observation of Twin-free GaAs Nanowire Growth Using Template-Assisted Selective Epitaxy. Crystal Growth and Design, 2017, 17, 6297-6302.	3.0	27
39	In situdoping of catalyst-free InAs nanowires. Nanotechnology, 2012, 23, 505708.	2.6	24
40	Bonding and Electronic Transport Properties of Fullerene and Fullerene Derivatives in Breakâ€Junction Geometries. Small, 2013, 9, 209-214.	10.0	22
41	Facet-selective group-III incorporation in InGaAs template assisted selective epitaxy. Nanotechnology, 2019, 30, 084004.	2.6	22
42	Modular Functionalization of Electrodes by Crossâ€Coupling Reactions at Their Surfaces. Advanced Functional Materials, 2011, 21, 3706-3714.	14.9	19
43	Dopant-Induced Modifications of Ga_xIn_(1â€“x)P Nanowire-Based pâ€“n Junctions Monolithically Integrated on Si(111). ACS Applied Materials & Interfaces, 2018, 10, 32588-32596.	8.0	18
44	IIIâ€“V-based hetero tunnel FETs: A simulation study with focus on non-ideality effects. , 2016, , .		14
45	Nanoscale Origin of Defects at Metal/Molecule Engineered Interfaces. Langmuir, 2013, 29, 1340-1345.	3.5	12
46	Fingerprinting Electronic Molecular Complexes in Liquid. Scientific Reports, 2016, 6, 19009.	3.3	8
47	Combined scanning probe electronic and thermal characterization of an indium arsenide nanowire. Beilstein Journal of Nanotechnology, 2018, 9, 129-136.	2.8	7
48	A robust molecular probe for Ã...ngstrom-scale analytics in liquids. Nature Communications, 2016, 7, 12403.	12.8	4
49	Transition to the quantum hall regime in InAs nanowire cross-junctions. Semiconductor Science and Technology, 2019, 34, 035028.	2.0	4
50	Integrated III-V nanoelectronic devices on Si. , 2017, , .		3
51	Semiconductor Epitaxy in Superconducting Templates. Nano Letters, 2021, 21, 9922-9929.	9.1	2
52	How non-ideality effects deteriorate the performance of tunnel FETs. , 2017, , .		1
53	Monolithically integrated III-V gain material on virtual substrates on Si using template-assisted selective epitaxy. , 2017, , .		1
54	Monolithic integration of III-V nanostructures for electronic and photonic applications. , 2017, , .		1

#	Article	IF	Citations
55	III–V device integration on Si using template-assisted selective epitaxy. , 2015, , .		0
56	III-V Vertical Nanowires Grown on Si by Template-assisted Selective Epitaxy for Tandem Solar Cells. , 2019, , .		0