

Philippe Caroff

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

121 papers	7,229 citations	43 h-index	84 g-index
124 ext. papers	7,925 ext. citations	7.4 avg, IF	5.84 L-index

#	Paper	IF	Citations
121	Postgrowth Shaping and Transport Anisotropy in Two-Dimensional InAs Nanofins. <i>ACS Nano</i> , 2021 , 15, 7226-7236	16.7	0
120	Highly regular rosette-shaped cathodoluminescence in GaN self-assembled nanodisks and nanorods. <i>Nano Research</i> , 2020 , 13, 2500-2505	10	3
119	In situ passivation of GaAsSb nanowires for enhanced infrared photoresponse. <i>Nanotechnology</i> , 2020 , 31, 244002	3.4	8
118	Impact of invasive metal probes on Hall measurements in semiconductor nanostructures. <i>Nanoscale</i> , 2020 , 12, 20317-20325	7.7	4
117	Exploring the band structure of Wurtzite InAs nanowires using photocurrent spectroscopy. <i>Nano Research</i> , 2020 , 13, 1586-1591	10	2
116	Regaining a Spatial Dimension: Mechanically Transferrable Two-Dimensional InAs Nanofins Grown by Selective Area Epitaxy. <i>Nano Letters</i> , 2019 , 19, 4666-4677	11.5	16
115	Shape Engineering of InP Nanostructures by Selective Area Epitaxy. <i>ACS Nano</i> , 2019 , 13, 7261-7269	16.7	27
114	Vapor Phase Growth of Semiconductor Nanowires: Key Developments and Open Questions. <i>Chemical Reviews</i> , 2019 , 119, 8958-8971	68.1	103
113	Importance of point defect reactions for the atomic-scale roughness of III-V nanowire sidewalls. <i>Nanotechnology</i> , 2019 , 30, 324002	3.4	2
112	The Role of Polarity in Nonplanar Semiconductor Nanostructures. <i>Nano Letters</i> , 2019 , 19, 3396-3408	11.5	20
111	Nanosails Showcasing Zn3As2 as an Optoelectronic-Grade Earth Abundant Semiconductor. <i>Physica Status Solidi - Rapid Research Letters</i> , 2019 , 13, 1900084	2.5	7
110	Strong Hot Carrier Effects in Single Nanowire Heterostructures. <i>Nano Letters</i> , 2019 , 19, 5062-5069	11.5	8
109	Ballistic InSb Nanowires and Networks via Metal-Sown Selective Area Growth. <i>Nano Letters</i> , 2019 , 19, 9102-9111	11.5	13
108	Engineering the Side Facets of Vertical [100] Oriented InP Nanowires for Novel Radial Heterostructures. <i>Nanoscale Research Letters</i> , 2019 , 14, 399	5	5
107	Solution-Processed InAs Nanowire Transistors as Microwave Switches. <i>Advanced Electronic Materials</i> , 2019 , 5, 1800323	6.4	2
106	Selectivity Map for Molecular Beam Epitaxy of Advanced III-V Quantum Nanowire Networks. <i>Nano Letters</i> , 2019 , 19, 218-227	11.5	51
105	Editorial-Focus on inorganic semiconductor nanowires for device applications. <i>Nanotechnology</i> , 2018 , 29, 030201	3.4	3

104	Anisotropic transport properties of quasiballistic InAs nanowires under high magnetic field. <i>Physical Review B</i> , 2018 , 97,	3.3	5
103	p-GaAs Nanowire Metal-Semiconductor Field-Effect Transistors with Near-Thermal Limit Gating. <i>Nano Letters</i> , 2018 , 18, 5673-5680	11.5	5
102	Room Temperature GaAsSb Array Photodetectors 2018 ,		1
101	Radial Growth Evolution of InGaAs/InP Multi-Quantum-Well Nanowires Grown by Selective-Area Metal Organic Vapor-Phase Epitaxy. <i>ACS Nano</i> , 2018 , 12, 10374-10382	16.7	18
100	The effect of nitridation on the polarity and optical properties of GaN self-assembled nanorods. <i>Nanoscale</i> , 2018 , 10, 11205-11210	7.7	7
99	Ballistic transport and quantum interference in InSb nanowire devices. <i>Chinese Physics B</i> , 2017 , 26, 027305	3.5	4
98	Growth and optical properties of In _x Ga _{1-x} P nanowires synthesized by selective-area epitaxy. <i>Nano Research</i> , 2017 , 10, 672-682	10	24
97	Strong Amplified Spontaneous Emission from High Quality GaAs _{1-x} Sb _x Single Quantum Well Nanowires. <i>Journal of Physical Chemistry C</i> , 2017 , 121, 8636-8644	3.8	14
96	Dopant-Free Twinning Superlattice Formation in InSb and InP Nanowires. <i>Physica Status Solidi - Rapid Research Letters</i> , 2017 , 11, 1700310	2.5	12
95	0D phase transition in hybrid superconductorInSb nanowire quantum dot devices. <i>Physical Review B</i> , 2017 , 95,	3.3	24
94	InP-InGaAs core-multi-shell nanowire quantum wells with tunable emission in the 1.3-1.55 μ m wavelength range. <i>Nanoscale</i> , 2017 , 9, 13554-13562	7.7	8
93	Lazarevicite-type short-range ordering in ternary III-V nanowires. <i>Physical Review B</i> , 2016 , 94,	3.3	6
92	Coherent Charge Transport in Ballistic InSb Nanowire Josephson Junctions. <i>Scientific Reports</i> , 2016 , 6, 24822	4.9	21
91	Doping-enhanced radiative efficiency enables lasing in unpassivated GaAs nanowires. <i>Nature Communications</i> , 2016 , 7, 11927	17.4	57
90	Simultaneous Selective-Area and Vapor-Liquid-Solid Growth of InP Nanowire Arrays. <i>Nano Letters</i> , 2016 , 16, 4361-7	11.5	46
89	Twin-Induced InSb Nanosails: A Convenient High Mobility Quantum System. <i>Nano Letters</i> , 2016 , 16, 825-833	3.5	61
88	InAs/InSb: From Nanowires to Nanomembranes 2016 , 596-597		
87	Self-Equilibration of the Diameter of Ga-Catalyzed GaAs Nanowires. <i>Nano Letters</i> , 2015 , 15, 5580-4	11.5	90

86	In(x)Ga(1-x)As nanowires with uniform composition, pure wurtzite crystal phase and taper-free morphology. <i>Nanotechnology</i> , 2015 , 26, 205604	3.4	29
85	Formation of long single quantum dots in high quality InSb nanowires grown by molecular beam epitaxy. <i>Nanoscale</i> , 2015 , 7, 14822-8	7.7	17
84	Understanding the growth and composition evolution of gold-seeded ternary InGaAs nanowires. <i>Nanoscale</i> , 2015 , 7, 16266-72	7.7	30
83	Zn ₃ As ₂ nanowires and nanoplatelets: highly efficient infrared emission and photodetection by an earth abundant material. <i>Nano Letters</i> , 2015 , 15, 378-85	11.5	14
82	Type I band alignment in GaAs ₈₁ Sb ₁₉ /GaAs core-shell nanowires. <i>Applied Physics Letters</i> , 2015 , 107, 112102	3.4	13
81	Room temperature GaAsSb single nanowire infrared photodetectors. <i>Nanotechnology</i> , 2015 , 26, 445202	3.4	50
80	Antimony Induced {112}A Faceted Triangular GaAs _{1-x} Sb _x /InP Core/Shell Nanowires and Their Enhanced Optical Quality. <i>Advanced Functional Materials</i> , 2015 , 25, 5300-5308	15.6	34
79	Tunable Polarity in a III-V Nanowire by Droplet Wetting and Surface Energy Engineering. <i>Advanced Materials</i> , 2015 , 27, 6096-103	24	60
78	Controlling the morphology, composition and crystal structure in gold-seeded GaAs(1-x)Sb(x) nanowires. <i>Nanoscale</i> , 2015 , 7, 4995-5003	7.7	46
77	Tunnel junctions in a III-V nanowire by surface engineering. <i>Nano Research</i> , 2015 , 8, 980-989	10	12
76	Parity independence of the zero-bias conductance peak in a nanowire based topological superconductor-quantum dot hybrid device. <i>Scientific Reports</i> , 2014 , 4, 7261	4.9	62
75	Morphology and composition controlled Ga(x)In(1-x)Sb nanowires: understanding ternary antimonide growth. <i>Nanoscale</i> , 2014 , 6, 1086-92	7.7	18
74	Atomic scale strain relaxation in axial semiconductor III-V nanowire heterostructures. <i>Nano Letters</i> , 2014 , 14, 6614-20	11.5	85
73	Metal-seeded growth of III-V semiconductor nanowires: towards gold-free synthesis. <i>Nanoscale</i> , 2014 , 6, 3006-21	7.7	69
72	Selective-area epitaxy of pure wurtzite InP nanowires: high quantum efficiency and room-temperature lasing. <i>Nano Letters</i> , 2014 , 14, 5206-11	11.5	160
71	Nanowires grown on InP (100): growth directions, facets, crystal structures, and relative yield control. <i>ACS Nano</i> , 2014 , 8, 6945-54	16.7	45
70	Gold-free ternary III-V antimonide nanowire arrays on silicon: twin-free down to the first bilayer. <i>Nano Letters</i> , 2014 , 14, 326-32	11.5	80
69	Time-resolved X-ray diffraction investigation of the modified phonon dispersion in InSb nanowires. <i>Nano Letters</i> , 2014 , 14, 541-6	11.5	14

68	Magnetotransport subband spectroscopy in InAs nanowires. <i>Physical Review Letters</i> , 2014 , 112, 076801	7.4	14
67	Electrical characterization of semiconductor nanowires by scanning tunneling microscopy 2014 ,		2
66	Twinning superlattice formation in GaAs nanowires. <i>ACS Nano</i> , 2013 , 7, 8105-14	16.7	66
65	Superconductor-nanowire devices from tunneling to the multichannel regime: Zero-bias oscillations and magnetoconductance crossover. <i>Physical Review B</i> , 2013 , 87,	3.3	576
64	Persistent enhancement of the carrier density in electron irradiated InAs nanowires. <i>Nanotechnology</i> , 2013 , 24, 275706	3.4	21
63	Inhomogeneous Si-doping of gold-seeded InAs nanowires grown by molecular beam epitaxy. <i>Applied Physics Letters</i> , 2013 , 102, 223105	3.4	13
62	Band offsets at zincblende-wurtzite GaAs nanowire sidewall surfaces. <i>Applied Physics Letters</i> , 2013 , 103, 122104	3.4	27
61	Raman spectroscopy of self-catalyzed GaAs(1-x)Sb(x) nanowires grown on silicon. <i>Nanotechnology</i> , 2013 , 24, 405707	3.4	34
60	Growth mechanisms and process window for InAs V-shaped nanoscale membranes on Si[001]. <i>Nanotechnology</i> , 2013 , 24, 435603	3.4	7
59	Anomalous zero-bias conductance peak in a Nb-InSb nanowire-Nb hybrid device. <i>Nano Letters</i> , 2012 , 12, 6414-9	11.5	1210
58	Demonstration of defect-free and composition tunable GaIn _{1-x} Sb nanowires. <i>Nano Letters</i> , 2012 , 12, 4914-9	11.5	41
57	Faceting, composition and crystal phase evolution in III-V antimonide nanowire heterostructures revealed by combining microscopy techniques. <i>Nanotechnology</i> , 2012 , 23, 095702	3.4	86
56	Supercurrent and multiple Andreev reflections in an InSb nanowire Josephson junction. <i>Nano Letters</i> , 2012 , 12, 228-33	11.5	73
55	Vertical "III-V" V-shaped nanomembranes epitaxially grown on a patterned Si[001] substrate and their enhanced light scattering. <i>ACS Nano</i> , 2012 , 6, 10982-91	16.7	39
54	Electrical properties of InAs _{1-x} Sb _x and InSb nanowires grown by molecular beam epitaxy. <i>Applied Physics Letters</i> , 2012 , 100, 232105	3.4	50
53	Combinatorial approaches to understanding polytypism in III-V nanowires. <i>ACS Nano</i> , 2012 , 6, 6142-9	16.7	51
52	Phonon Transport and Thermoelectricity in Defect-Engineered InAs Nanowires. <i>Materials Research Society Symposia Proceedings</i> , 2012 , 1404, 36		5
51	Combined STM and Four-Probe Resistivity Measurements on Single Semiconductor Nanowires. <i>Advances in Atom and Single Molecule Machines</i> , 2012 , 107-118	0	1

50	High yield of self-catalyzed GaAs nanowire arrays grown on silicon via gallium droplet positioning. <i>Nanotechnology</i> , 2011 , 22, 275602	3.4	129
49	Thermal conductivity of indium arsenide nanowires with wurtzite and zinc blende phases. <i>Physical Review B</i> , 2011 , 83,	3.3	89
48	Unit cell structure of crystal polytypes in InAs and InSb nanowires. <i>Nano Letters</i> , 2011 , 11, 1483-9	11.5	110
47	Effects of crystal phase mixing on the electrical properties of InAs nanowires. <i>Nano Letters</i> , 2011 , 11, 2424-9	11.5	200
46	Unipolar and bipolar operation of InAs/InSb nanowire heterostructure field-effect transistors. <i>Journal of Applied Physics</i> , 2011 , 110, 064510	2.5	8
45	Crystal Phases in III-V Nanowires: From Random Toward Engineered Polytypism. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2011 , 17, 829-846	3.8	141
44	InSb Nanowire Field-Effect Transistors and Quantum-Dot Devices. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2011 , 17, 907-914	3.8	30
43	Temperature and frequency characterization of InAs nanowire and HfO ₂ interface using capacitance-voltage method. <i>Microelectronic Engineering</i> , 2011 , 88, 444-447	2.5	2
42	Wurtzite-zincblende superlattices in InAs nanowires using a supply interruption method. <i>Nanotechnology</i> , 2011 , 22, 265606	3.4	43
41	Parameter space mapping of InAs nanowire crystal structure. <i>Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics</i> , 2011 , 29, 04D103	1.3	37
40	Correlation-induced conductance suppression at level degeneracy in a quantum dot. <i>Physical Review Letters</i> , 2010 , 104, 186804	7.4	47
39	Control of III-V nanowire crystal structure by growth parameter tuning. <i>Semiconductor Science and Technology</i> , 2010 , 25, 024009	1.8	200
38	Gold-free GaAs/GaAsSb heterostructure nanowires grown on silicon. <i>Applied Physics Letters</i> , 2010 , 96, 121901	3.4	78
37	Temperature dependent properties of InSb and InAs nanowire field-effect transistors. <i>Applied Physics Letters</i> , 2010 , 96, 153505	3.4	67
36	Doping Incorporation in InAs nanowires characterized by capacitance measurements. <i>Journal of Applied Physics</i> , 2010 , 108, 054306	2.5	39
35	Crystal phase engineering in single InAs nanowires. <i>Nano Letters</i> , 2010 , 10, 3494-9	11.5	205
34	Diameter Dependence of the Wurtzite-Zinc Blende Transition in InAs Nanowires. <i>Journal of Physical Chemistry C</i> , 2010 , 114, 3837-3842	3.8	121
33	Gold-free growth of GaAs nanowires on silicon: arrays and polytypism. <i>Nanotechnology</i> , 2010 , 21, 385602	3.4	136

32	The electrical and structural properties of n-type InAs nanowires grown from metal-organic precursors. <i>Nanotechnology</i> , 2010 , 21, 205703	3.4	83
31	Growth of vertical InAs nanowires on heterostructured substrates. <i>Nanotechnology</i> , 2009 , 20, 285303	3.4	16
30	Controlled polytypic and twin-plane superlattices in iii-v nanowires. <i>Nature Nanotechnology</i> , 2009 , 4, 50-5	28.7	577
29	Critical thickness for InAs quantum dot formation on (311)B InP substrates. <i>Journal of Crystal Growth</i> , 2009 , 311, 2626-2629	1.6	2
28	Nanowire biocompatibility in the brain--looking for a needle in a 3D stack. <i>Nano Letters</i> , 2009 , 9, 4184-90	11.5	40
27	InSb heterostructure nanowires: MOVPE growth under extreme lattice mismatch. <i>Nanotechnology</i> , 2009 , 20, 495606	3.4	108
26	MOVPE growth and structural characterization of extremely lattice-mismatched InP-InSb nanowire heterostructures 2009 ,		2
25	Comparing InSb, InAs, and InSb/InAs nanowire MOSFETs 2009 ,		1
24	Giant, level-dependent g factors in InSb nanowire quantum dots. <i>Nano Letters</i> , 2009 , 9, 3151-6	11.5	201
23	Development of a Vertical Wrap-Gated InAs FET. <i>IEEE Transactions on Electron Devices</i> , 2008 , 55, 3030-3036	3.4	83
22	InAs film grown on Si(111) by metal organic vapor phase epitaxy. <i>Journal of Physics: Conference Series</i> , 2008 , 100, 042017	0.3	8
21	Optical properties and morphology of InAs/InP (113)B surface quantum dots. <i>Applied Physics Letters</i> , 2008 , 92, 231911	3.4	4
20	High-quality InAs/InSb nanowire heterostructures grown by metal-organic vapor-phase epitaxy. <i>Small</i> , 2008 , 4, 878-82	11	153
19	GaAs/GaSb nanowire heterostructures grown by MOVPE. <i>Journal of Crystal Growth</i> , 2008 , 310, 4115-4121	1.6	81
18	Characterization of GaSb nanowires grown by MOVPE. <i>Journal of Crystal Growth</i> , 2008 , 310, 5119-5122	1.6	40
17	Exciton and biexciton lifetimes in InAs/InP quantum dots emitting at 1.55 μm wavelength under resonant excitation. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2007 , 4, 454-457		
16	Characterization of InAs quantum wires on (001)InP: toward the realization of VCSEL structures with a stabilized polarization. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2007 , 204, 1672-1676	1.6	5
15	Increase of charge-carrier redistribution efficiency in a laterally organized superlattice of coupled quantum dots. <i>Physical Review B</i> , 2006 , 74,	3.3	17

14	Time-resolved pump probe of 1.55 μm InAs/InP quantum dots under high resonant excitation. <i>Applied Physics Letters</i> , 2006 , 88, 171502	3-4	19
13	Temperature studies on a single InAs/InP QD layer laser emitting at 1.55 μm . <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2006 , 3, 407-410		7
12	InAs(Sb)/InP(100) quantum dots for mid-infrared emitters: observation of 2.35 μm photoluminescence. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2006 , 3, 3920-3923		16
11	Self-assembled InAs quantum dots grown on InP (3 1 1)B substrates: Role of buffer layer and amount of InAs deposited. <i>Journal of Crystal Growth</i> , 2006 , 293, 263-268	1.6	6
10	Carrier Dynamics and Saturation Effect in (113)B InAs/InP Quantum Dot Lasers. <i>Optical and Quantum Electronics</i> , 2006 , 38, 369-379	2-4	13
9	Achievement of High Density InAs Quantum Dots on InP (311)B Substrate Emitting at 1.55 μm . <i>Japanese Journal of Applied Physics</i> , 2005 , 44, L1069-L1071	1-4	31
8	Impact of the capping layers on lateral confinement in InAs/InP quantum dots for 1.55 μm laser applications studied by magnetophotoluminescence. <i>Applied Physics Letters</i> , 2005 , 87, 233111	3-4	21
7	High-gain and low-threshold InAs quantum-dot lasers on InP. <i>Applied Physics Letters</i> , 2005 , 87, 243107	3-4	102
6	Comparison of InAs quantum dot lasers emitting at 1.55 μm under optical and electrical injection. <i>Semiconductor Science and Technology</i> , 2005 , 20, 459-463	1.8	30
5	Approach to wetting-layer-assisted lateral coupling of InAs/InP quantum dots. <i>Physical Review B</i> , 2005 , 72,	3-3	26
4	Emission wavelength control of InAs quantum dots in a GaInAsP matrix grown on InP(311)B substrates. <i>Journal of Crystal Growth</i> , 2005 , 273, 357-362	1.6	16
3	Molecular beam epitaxy growth of quantum dot lasers emitting around 1.5 μm on InP(311)B substrates. <i>Journal of Crystal Growth</i> , 2005 , 278, 329-334	1.6	3
2	Formation of InAs islands on InP(311)B surface by molecular beam epitaxy. <i>Journal of Crystal Growth</i> , 2003 , 257, 104-109	1.6	2
1	Indirect exchange coupling between two ferromagnetic electrodes through ZnS barrier in magnetic tunnel junctions. <i>Applied Physics Letters</i> , 2003 , 83, 2202-2204	3-4	3