Jesper Wallentin

List of Publications by Year
in descending order

75 papers	3,116 citations	218677 26 h-index	155660 55 g-index
78 all docs	78 docs citations	78 times ranked	3633 citing authors

#	Article	IF	Citations
1	InP Nanowire Array Solar Cells Achieving 13.8% Efficiency by Exceeding the Ray Optics Limit. Science, 2013, 339, 1057-1060.	12.6	1,093
2	A General Approach for Sharp Crystal Phase Switching in InAs, GaAs, InP, and GaP Nanowires Using Only Group V Flow. Nano Letters, 2013, 13, 4099-4105.	9.1	156
3	Doping of semiconductor nanowires. Journal of Materials Research, 2011, 26, 2142-2156.	2.6	139
4	In situ etching for total control over axial and radial nanowire growth. Nano Research, 2010, 3, 264-270.	10.4	135
5	Nanowires With Promise for Photovoltaics. IEEE Journal of Selected Topics in Quantum Electronics, 2011, 17, 1050-1061.	2.9	123
6	Electron Trapping in InP Nanowire FETs with Stacking Faults. Nano Letters, 2012, 12, 151-155.	9.1	102
7	Tunnel Field-Effect Transistors Based on InP-GaAs Heterostructure Nanowires. ACS Nano, 2012, 6, 3109-3113.	14.6	89
8	Changes in Contact Angle of Seed Particle Correlated with Increased Zincblende Formation in Doped InP Nanowires. Nano Letters, 2010, 10, 4807-4812.	9.1	83
9	High-Performance Single Nanowire Tunnel Diodes. Nano Letters, 2010, 10, 974-979.	9.1	77
10	Probing the Wurtzite Conduction Band Structure Using State Filling in Highly Doped InP Nanowires. Nano Letters, 2011, 11, 2286-2290.	9.1	66
11	Strategies to obtain pattern fidelity in nanowire growth from large-area surfaces patterned using nanoimprint lithography. Nano Research, 2016, 9, 2852-2861.	10.4	56
12	Simulated sample heating from a nanofocused X-ray beam. Journal of Synchrotron Radiation, 2017, 24, 925-933.	2.4	50
13	Unit cell parameters of wurtzite InP nanowires determined by x-ray diffraction. Nanotechnology, 2011, 22, 425704.	2.6	49
14	Particle-assisted Ga_{<i>x</i>}In_{1âˆ’<i>x</i>}P nanowire growth for designed bandgap structures. Nanotechnology, 2012, 23, 245601.	2.6	48
15	A New Route toward Semiconductor Nanospintronics: Highly Mn-Doped GaAs Nanowires Realized by Ion-Implantation under Dynamic Annealing Conditions. Nano Letters, 2011, 11, 3935-3940.	9.1	47
16	Fluorescent Nanowire Heterostructures as a Versatile Tool for Biology Applications. Nano Letters, 2013, 13, 4728-4732.	9.1	43
17	Bending and Twisting Lattice Tilt in Strained Coreâ€“Shell Nanowires Revealed by Nanofocused X-ray Diffraction. Nano Letters, 2017, 17, 4143-4150.	9.1	43
18	Au-Seeded Growth of Vertical and in-Plane IIIâ€“V Nanowires on Graphite Substrates. Nano Letters, 2014, 14, 1707-1713.	9.1	41

#	Article	IF	Citations
19	Surface Chemistry, Structure, and Electronic Properties from Microns to the Atomic Scale of Axially Doped Semiconductor Nanowires. ACS Nano, 2012, 6, 9679-9689.	14.6	37
20	Study of photocurrent generation in InP nanowire-based p+-i-n+ photodetectors. Nano Research, 2014, 7, 544-552.	10.4	37
21	Electrical and optical properties of InP nanowire ensemble p⁺â€“iâ€“n⁺photodetectors. Nanotechnology, 2012, 23, 135201.	2.6	31
22	Bragg coherent x-ray diffractive imaging of a single indium phosphide nanowire. Journal of Optics (United Kingdom), 2016, 18, 064007.	2.2	30
23	Single-Crystalline Perovskite Nanowire Arrays for Stable X-ray Scintillators with Micrometer Spatial Resolution. ACS Applied Nano Materials, 2022, 5, 881-889.	5.0	30
24	Degenerate p-doping of InP nanowires for large area tunnel diodes. Applied Physics Letters, 2011, 99, .	3.3	28
25	Growth of doped InAsyP1âˆ’y nanowires with InP shells. Journal of Crystal Growth, 2011, 331, 8-14.	1.5	27
26	Carrier Recombination Dynamics in Sulfur-Doped InP Nanowires. Nano Letters, 2015, 15, 7238-7244.	9.1	26
27	Bulk-like transverse electron mobility in an array of heavily<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>n</mml:mi></mml:math>-doped InP nanowires probed by terahertz spectroscopy. Physical Review B, 2014, 90, .	3.2	24
28	<i>In Situ</i> Imaging of Ferroelastic Domain Dynamics in CsPbBr₃ Perovskite Nanowires by Nanofocused Scanning X-ray Diffraction. ACS Nano, 2020, 14, 15973-15982.	14.6	21
29	Hard X-ray Detection Using a Single 100 nm Diameter Nanowire. Nano Letters, 2014, 14, 7071-7076.	9.1	20
30	Gate-Induced Fermi Level Tuning in InP Nanowires at Efficiency Close to the Thermal Limit. Nano Letters, 2011, 11, 1127-1130.	9.1	19
31	Nanobeam X-ray Fluorescence Dopant Mapping Reveals Dynamics of in Situ Zn-Doping in Nanowires. Nano Letters, 2018, 18, 6461-6468.	9.1	19
32	Dynamics of extremely anisotropic etching of InP nanowires by HCl. Chemical Physics Letters, 2011, 502, 222-224.	2.6	16
33	Doping profile of InP nanowires directly imaged by photoemission electron microscopy. Applied Physics Letters, 2011, 99, 233113.	3.3	16
34	Currentâ€“Voltage Characterization of Individual As-Grown Nanowires Using a Scanning Tunneling Microscope. Nano Letters, 2013, 13, 5182-5189.	9.1	16
35	High-flux ptychographic imaging using the new 55â€…Âµm-pixel detector `Lambda' based on the Medipix3 readout chip. Acta Crystallographica Section A: Foundations and Advances, 2014, 70, 552-562.	0.1	16
36	Structural investigation of GaInP nanowires using X-ray diffraction. Thin Solid Films, 2013, 543, 100-105.	1.8	15

#	Article	IF	Citations
37	In Operando Xâ€Ray Nanodiffraction Reveals Electrically Induced Bending and Lattice Contraction in a Single Nanowire Device. Advanced Materials, 2016, 28, 1788-1792.	21.0	14
38	Single GaInP nanowire p-i-n junctions near the direct to indirect bandgap crossover point. Applied Physics Letters, 2012, 100, 251103.	3.3	13
39	Simultaneous Growth of Pure Wurtzite and Zinc Blende Nanowires. Nano Letters, 2019, 19, 2723-2730.	9.1	13
40	Three-Dimensional Coherent Bragg Imaging of Rotating Nanoparticles. Physical Review Letters, 2020, 125, 246101.	7.8	12
41	Vertically Aligned CsPbBr3 Nanowire Arrays with Template-Induced Crystal Phase Transition and Stability. Journal of Physical Chemistry C, 2021, 125, 4860-4868.	3.1	12
42	Nanoscale mapping of carrier collection in single nanowire solar cells using X-ray beam induced current. Journal of Synchrotron Radiation, 2019, 26, 102-108.	2.4	12
43	Combining Nanofocused X-Rays with Electrical Measurements at the NanoMAX Beamline. Crystals, 2019, 9, 432.	2.2	11
44	High resolution strain mapping of a single axially heterostructured nanowire using scanning X-ray diffraction. Nano Research, 2020, 13, 2460-2468.	10.4	11
45	Three-dimensional coherent x-ray diffraction imaging of ferroelastic domains in single CsPbBr₃ perovskite nanoparticles. New Journal of Physics, 2021, 23, 063035.	2.9	11
46	Holographic imaging with a hard x-ray nanoprobe: ptychographic versus conventional phase retrieval. Optics Letters, 2016, 41, 5519.	3.3	11
47	Towards multi-order hard X-ray imaging with multilayer zone plates. Journal of Applied Crystallography, 2015, 48, 116-124.	4.5	10
48	Spectrally resolved x-ray beam induced current in a single InGaP nanowire. Nanotechnology, 2018, 29, 454001.	2.6	9
49	Perovskite-Compatible Electron-Beam-Lithography Process Based on Nonpolar Solvents for Single-Nanowire Devices. ACS Applied Nano Materials, 2022, 5, 3177-3182.	5.0	9
50	Semiconductor-Oxide Heterostructured Nanowires Using Postgrowth Oxidation. Nano Letters, 2013, 13, 5961-5966.	9.1	8
51	Direct Three-Dimensional Imaging of an X-ray Nanofocus Using a Single 60 nm Diameter Nanowire Device. Nano Letters, 2020, 20, 8326-8331.	9.1	8
52	Free-Standing Metal Halide Perovskite Nanowire Arrays with Blue-Green Heterostructures. Nano Letters, 2022, 22, 2941-2947.	9.1	8
53	Confinement effects on Brillouin scattering in semiconductor nanowire photonic crystal. Physical Review B, 2016, 94, .	3.2	7
54	Strain mapping inside an individual processed vertical nanowire transistor using scanning X-ray nanodiffraction. Nanoscale, 2020, 12, 14487-14493.	5.6	7

#	Article	IF	Citations
55	Inducing ferroelastic domains in single-crystal <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>CsPbBr</mml:mi><mml:mn>3</mml:mn></mml:msub></ perovskite nanowires using atomic force microscopy. Physical Review Materials, 2021, 5, .	2.4	7
56	X-ray in-line holography and holotomography at the NanoMAX beamline. Journal of Synchrotron Radiation, 2022, 29, 224-229.	2.4	7
57	Fabrication and characterization of AlP-GaP core-shell nanowires. Journal of Crystal Growth, 2011, 324, 290-295.	1.5	6
58	Large-energy-shift photon upconversion in degenerately doped InP nanowires by direct excitation into the electron gas. Nano Research, 2013, 6, 752-757.	10.4	6
59	Three-dimensional in situ imaging of single-grain growth in polycrystalline In2O3:Zr films. Communications Materials, 2022, 3, .	6.9	6
60	Off-axis multilayer zone plate with 16â€…nm Ã— 28â€…nm focus for high-resolution X-ray beam induced current imaging. Journal of Synchrotron Radiation, 2021, 28, 1573-1582.	2.4	5
61	Experimental optimization of X-ray propagation-based phase contrast imaging geometry. Optics Express, 2020, 28, 29562.	3.4	5
62	Solidâ€"liquidâ€"vapor metal-catalyzed etching of lateral and vertical nanopores. Nanotechnology, 2013, 24, 415303.	2.6	4
63	Simultaneous high-resolution scanning Bragg contrast and ptychographic imaging of a single solar cell nanowire. Journal of Applied Crystallography, 2015, 48, 1818-1826.	4.5	4
64	Photoluminescence study of Zn-doped wurtzite InP core-shell nanowires. Applied Physics Letters, 2013, 102, 032105.	3.3	3
65	Photovoltaics with piezoelectric core-shell nanowires. AIP Conference Proceedings, 2011, , .	0.4	2
66	Ultrafast Optical Generation of Coherent Bright and Dark Surface Phonon Polaritons in Nanowires. ACS Photonics, 2020, 7, 1923-1931.	6.6	2
67	<i>In situ</i> imaging of temperature-dependent fast and reversible nanoscale domain switching in a single-crystal perovskite. Physical Review Materials, 2022, 6, .	2.4	2
68	Transparently wrap-gated semiconductor nanowire arrays for studies of gate-controlled photoluminescence. , 2013, , .		1
69	Photon upconversion in degenerately sulfur doped InP nanowires. Nanoscale, 2015, 7, 20503-20509.	5.6	1
70	Creating dynamic nanowire devices using wrapped gates. , 2011, , .		0
71	Dual-gate induced InP nanowire diode. , 2011, , .		0
72	Progress on multi-order hard x-ray imaging with multilayer zone plates. , 2015, , .		0

#	Article	IF	Citations
73	Characterization of Nanowire Devices Using Nano-Focused X-Ray Beams. , 2019, , .		0
74	Optical demonstration of crystallography and reciprocal space using laser diffraction from Au microdisc arrays. Journal of Applied Crystallography, 2022, 55, 168-171.	4.5	0
75	Compositional analysis of oxide-embedded IIIâ€“V nanostructures. Nanotechnology, 2022, 33, 375705.	2.6	0