Hannah J Joyce

List of Publications by Year
in descending order

135 papers	5,621 citations	71102 41 h-index	76900 74 g-index
136 all docs	136 docs citations	136 times ranked	5604 citing authors

#	Article	IF	Citations
1	Phase Perfection in Zinc Blende and Wurtzite IIIâˆ’V Nanowires Using Basic Growth Parameters. Nano Letters, 2010, 10, 908-915.	9.1	443
2	Twin-Free Uniform Epitaxial GaAs Nanowires Grown by a Two-Temperature Process. Nano Letters, 2007, 7, 921-926.	9.1	297
3	Electronic properties of GaAs, InAs and InP nanowires studied by terahertz spectroscopy. Nanotechnology, 2013, 24, 214006.	2.6	264
4	IIIâ€“V semiconductor nanowires for optoelectronic device applications. Progress in Quantum Electronics, 2011, 35, 23-75.	7.0	256
5	Carrier Lifetime and Mobility Enhancement in Nearly Defect-Free Coreâˆ’Shell Nanowires Measured Using Time-Resolved Terahertz Spectroscopy. Nano Letters, 2009, 9, 3349-3353.	9.1	253
6	Influence of Nanowire Density on the Shape and Optical Properties of Ternary InGaAs Nanowires. Nano Letters, 2006, 6, 599-604.	9.1	222
7	Polarization and temperature dependence of photoluminescence from zincblende and wurtzite InP nanowires. Applied Physics Letters, 2007, 91, .	3.3	196
8	Ultrafast Transient Terahertz Conductivity of Monolayer MoS₂ and WSe₂ Grown by Chemical Vapor Deposition. ACS Nano, 2014, 8, 11147-11153.	14.6	191
9	A review of the electrical properties of semiconductor nanowires: insights gained from terahertz conductivity spectroscopy. Semiconductor Science and Technology, 2016, 31, 103003.	2.0	168
10	Temperature dependence of photoluminescence from single core-shell GaAsâ€“AlGaAs nanowires. Applied Physics Letters, 2006, 89, 173126.	3.3	158
11	Ultralow Surface Recombination Velocity in InP Nanowires Probed by Terahertz Spectroscopy. Nano Letters, 2012, 12, 5325-5330.	9.1	158
12	Growth Mechanism of Truncated Triangular IIIâ€“V Nanowires. Small, 2007, 3, 389-393.	10.0	136
13	Unexpected Benefits of Rapid Growth Rate for IIIâˆ’V Nanowires. Nano Letters, 2009, 9, 695-701.	9.1	126
14	Extreme sensitivity of graphene photoconductivity to environmental gases. Nature Communications, 2012, 3, 1228.	12.8	120
15	Super Deformability and Youngâ€™s Modulus of GaAs Nanowires. Advanced Materials, 2011, 23, 1356-1360.	21.0	114
16	Nearly intrinsic exciton lifetimes in single twin-free GaAsâˆ•AlGaAs core-shell nanowire heterostructures. Applied Physics Letters, 2008, 93, .	3.3	109
17	Single Nanowire Photoconductive Terahertz Detectors. Nano Letters, 2015, 15, 206-210.	9.1	105
18	Removal of Surface States and Recovery of Band-Edge Emission in InAs Nanowires through Surface Passivation. Nano Letters, 2012, 12, 3378-3384.	9.1	98

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19	High Purity GaAs Nanowires Free of Planar Defects: Growth and Characterization. Advanced Functional Materials, 2008, 18, 3794-3800.	14.9	97
20	Novel Growth Phenomena Observed in Axial InAs/GaAs Nanowire Heterostructures. Small, 2007, 3, 1873-1877.	10.0	93
21	Nature of heterointerfaces in GaAs/InAs and InAs/GaAs axial nanowire heterostructures. Applied Physics Letters, 2008, 93, .	3.3	90
22	Phase Separation Induced by Au Catalysts in Ternary InGaAs Nanowires. Nano Letters, 2013, 13, 643-650.	9.1	79
23	Electron Mobilities Approaching Bulk Limits in â€œSurface-Freeâ€•GaAs Nanowires. Nano Letters, 2014, 14, 5989-5994.	9.1	79
24	Modulation Doping of GaAs/AlGaAs Coreâ€“Shell Nanowires With Effective Defect Passivation and High Electron Mobility. Nano Letters, 2015, 15, 1336-1342.	9.1	78
25	An Ultrafast Switchable Terahertz Polarization Modulator Based on IIIâ€“V Semiconductor Nanowires. Nano Letters, 2017, 17, 2603-2610.	9.1	77
26	Long-Range Charge Extraction in Back-Contact Perovskite Architectures via Suppressed Recombination. Joule, 2019, 3, 1301-1313.	24.0	68
27	Determination of band offsets at GaN/single-layer MoS2 heterojunction. Applied Physics Letters, 2016, 109, .	3.3	64
28	Increased Photoconductivity Lifetime in GaAs Nanowires by Controlled n-Type and p-Type Doping. ACS Nano, 2016, 10, 4219-4227.	14.6	62
29	Noncontact Measurement of Charge Carrier Lifetime and Mobility in GaN Nanowires. Nano Letters, 2012, 12, 4600-4604.	9.1	61
30	Strong Carrier Lifetime Enhancement in GaAs Nanowires Coated with Semiconducting Polymer. Nano Letters, 2012, 12, 6293-6301.	9.1	54
31	Growth temperature and V/III ratio effects on the morphology and crystal structure of InP nanowires. Journal Physics D: Applied Physics, 2010, 43, 445402.	2.8	52
32	Understanding the True Shape of Au-Catalyzed GaAs Nanowires. Nano Letters, 2014, 14, 5865-5872.	9.1	52
33	Evolution of Epitaxial InAs Nanowires on GaAs (111)B. Small, 2009, 5, 366-369.	10.0	51
34	Integrated, Portable, Tunable, and Coherent Terahertz Sources and Sensitive Detectors Based on Layered Superconductors. Proceedings of the IEEE, 2020, 108, 721-734.	21.3	50
35	Dynamics of Strongly Degenerate Electronâ^'Hole Plasmas and Excitons in Single InP Nanowires. Nano Letters, 2007, 7, 3383-3387.	9.1	49
36	Engineering the Photoresponse of InAs Nanowires. ACS Applied Materials & Interfaces, 2017, 9, 43993-44000.	8.0	49

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37	Self-Healing of Fractured GaAs Nanowires. Nano Letters, 2011, 11, 1546-1549.	9.1	48
38	Growth of Straight InAs-on-GaAs Nanowire Heterostructures. Nano Letters, 2011, 11, 3899-3905.	9.1	44
39	Formation of Hierarchical InAs Nanoringâ€‰/â€‰GaAs Nanowire Heterostructures. Angewandte Chemie - International Edition, 2009, 48, 780-783.	13.8	43
40	Defect-Free GaAs/AlGaAs Coreâ€“Shell Nanowires on Si Substrates. Crystal Growth and Design, 2011, 11, 3109-3114.	3.0	42
41	Fast Room-Temperature Detection of Terahertz Quantum Cascade Lasers with Graphene-Loaded Bow-Tie Plasmonic Antenna Arrays. ACS Photonics, 2016, 3, 1747-1753.	6.6	42
42	Resonant Excitation and Imaging of Nonequilibrium Exciton Spins in Single Coreâ^'Shell GaAsâ^'AlGaAs Nanowires. Nano Letters, 2007, 7, 588-595.	9.1	41
43	Tailoring GaAs, InAs, and InGaAs Nanowires for Optoelectronic Device Applications. IEEE Journal of Selected Topics in Quantum Electronics, 2011, 17, 766-778.	2.9	40
44	Evolution of InAs branches in InAsâ•GaAs nanowire heterostructures. Applied Physics Letters, 2007, 91, 133115.	3.3	39
45	Novel growth and properties of GaAs nanowires on Si substrates. Nanotechnology, 2010, 21, 035604.	2.6	38
46	Polarity driven formation of InAs/GaAs hierarchical nanowire heterostructures. Applied Physics Letters, 2008, 93, 201908.	3.3	36
47	An ultrafast carbon nanotube terahertz polarisation modulator. Journal of Applied Physics, 2014, 115, .	2.5	36
48	Bifunctional Perovskiteâ€BiVO₄ Tandem Devices for Uninterrupted Solar and Electrocatalytic Water Splitting Cycles. Advanced Functional Materials, 2021, 31, 2008182.	14.9	36
49	Tin(<scp>iv</scp>) dopant removal through anti-solvent engineering enabling tin based perovskite solar cells with high charge carrier mobilities. Journal of Materials Chemistry C, 2019, 7, 8389-8397.	5.5	34
50	Taper-Free and Vertically Oriented Ge Nanowires on Ge/Si Substrates Grown by a Two-Temperature Process. Crystal Growth and Design, 2012, 12, 135-141.	3.0	31
51	Direct Observation of Charge-Carrier Heating at WZâ€“ZB InP Nanowire Heterojunctions. Nano Letters, 2013, 13, 4280-4287.	9.1	31
52	The influence of surfaces on the transient terahertz conductivity and electron mobility of GaAs nanowires. Journal Physics D: Applied Physics, 2017, 50, 224001.	2.8	31
53	Evolution of Wurtzite Structured GaAs Shells Around InAs Nanowire Cores. Nanoscale Research Letters, 2009, 4, 846-849.	5.7	30
54	Dependence of Dye Regeneration and Charge Collection on the Pore-Filling Fraction in Solid-State Dye-Sensitized Solar Cells. Advanced Functional Materials, 2014, 24, 668-677.	14.9	29

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55	Electron-Beam Patterning of Polymer Electrolyte Films To Make Multiple Nanoscale Gates for Nanowire Transistors. Nano Letters, 2014, 14, 94-100.	9.1	27
56	Hybrid Nanowire Ion-to-Electron Transducers for Integrated Bioelectronic Circuitry. Nano Letters, 2017, 17, 827-833.	9.1	26
57	Vertically standing Ge nanowires on GaAs(110) substrates. Nanotechnology, 2008, 19, 125602.	2.6	23
58	Optimizing the Energy Offset between Dye and Hole-Transporting Material in Solid-State Dye-Sensitized Solar Cells. Journal of Physical Chemistry C, 2013, 117, 19850-19858.	3.1	19
59	Active Terahertz Modulator and Slow Light Metamaterial Devices with Hybrid Grapheneâ€“Superconductor Photonic Integrated Circuits. Nanomaterials, 2021, 11, 2999.	4.1	19
60	Onâ€Chip Andreev Devices: Hard Superconducting Gap and Quantum Transport in Ballistic Nbâ€“In_{0.75}Ga_{0.25}Asâ€Quantumâ€Wellâ€“Nb Josephson Junctions. Advanced Materials, 2017, 29, 1701836.	21.0	18
61	CdS/CdSe lateral heterostructure nanobelts by a two-step physical vapor transport method. Nanotechnology, 2010, 21, 145602.	2.6	16
62	Ultrafast Dynamics of Exciton Formation in Semiconductor Nanowires. Small, 2012, 8, 1725-1731.	10.0	16
63	Crystallographically driven Au catalyst movement during growth of InAs/GaAs axial nanowire heterostructures. Journal of Applied Physics, 2009, 105, 073503.	2.5	15
64	Electronic comparison of InAs wurtzite and zincblende phases using nanowire transistors. Physica Status Solidi - Rapid Research Letters, 2013, 7, 911-914.	2.4	15
65	The influence of atmosphere on the performance of pure-phase WZ and ZB InAs nanowire transistors. Nanotechnology, 2017, 28, 454001.	2.6	14
66	Taper-free and kinked germanium nanowires grown on silicon via purging and the two-temperature process. Nanotechnology, 2012, 23, 115603.	2.6	13
67	Precursor flow rate manipulation for the controlled fabrication of twin-free GaAs nanowires on silicon substrates. Nanotechnology, 2012, 23, 415702.	2.6	12
68	Proximity induced superconductivity in indium gallium arsenide quantum wells. Journal of Magnetism and Magnetic Materials, 2018, 459, 282-284.	2.3	11
69	Light management in ultra-thin solar cells: a guided optimisation approach. Optics Express, 2020, 28, 39093.	3.4	10
70	Transparent Quasi-Random Structures for Multimodal Light Trapping in Ultrathin Solar Cells with Broad Engineering Tolerance. ACS Photonics, 2022, 9, 2724-2735.	6.6	9
71	Vertically oriented epitaxial germanium nanowires on silicon substrates using thin germanium buffer layers. Nanotechnology, 2010, 21, 295602.	2.6	8
72	On-chip Hybrid Superconducting-Semiconducting Quantum Circuit. IEEE Transactions on Applied Superconductivity, 2018, 28, 1-4.	1.7	7

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73	Exploring the band structure of Wurtzite InAs nanowires using photocurrent spectroscopy. Nano Research, 2020, 13, 1586-1591.	10.4	7
74	High-Throughput Electrical Characterization of Nanomaterials from Room to Cryogenic Temperatures. ACS Nano, 2020, 14, 15293-15305.	14.6	5
75	Nanowires for optoelectronic device applications. Physica Status Solidi C: Current Topics in Solid State Physics, 2009, 6, 2678-2682.	0.8	4
76	Improving holographic search algorithms using sorted pixel selection. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2019, 36, 1456.	1.5	4
77	Growth, Structural and Optical Properties of GaAs/AlGaAs Core/Shell Nanowires with and without Quantum Well Shells. , 2006, , .		3
78	III-V compound semiconductor nanowires. , 2009, , .		3
79	Millimeter-Wave-to-Terahertz Superconducting Plasmonic Waveguides for Integrated Nanophotonics at Cryogenic Temperatures. Materials, 2021, 14, 4291.	2.9	3
80	Long-Term Stability and Optoelectronic Performance Enhancement of InAsP Nanowires with an Ultrathin InP Passivation Layer. Nano Letters, 2022, 22, 3433-3439.	9.1	3
81	III-V nanowires for optoelectronics. , 2006, , .		2
82	Growth, Structural and Optical Properties of GaAs, InGaAs and AlGaAs Nanowires and Nanowire Heterostructures. Conference Proceedings - Lasers and Electro-Optics Society Annual Meeting-LEOS, 2007, , .	0.0	2
83	How InAs crystal phase affects the electrical performance of InAs nanowire FETs. , 2014, , .		2
84	Scalable Quantum Integrated Circuits on Superconducting Two-Dimensional Electron Gas Platform. Journal of Visualized Experiments, 2019, , .	0.3	2
85	Facet-Related Non-uniform Photoluminescence in Passivated GaAs Nanowires. Frontiers in Chemistry, 2020, 8, 607481.	3.6	2
86	Waterâ€Assisted Growth: Bifunctional Perovskiteâ€BiVO₄ Tandem Devices for Uninterrupted Solar and Electrocatalytic Water Splitting Cycles (Adv. Funct. Mater. 15/2021). Advanced Functional Materials, 2021, 31, 2170104.	14.9	2
87	Growth, Structural and Optical Properties of III-V Nanowires for Optoelectronic Applications. , 2007, , .		1
88	Growth of III-V Nanowires and Nanowire Heterostructures by Metalorganic Chemical Vapor Deposition. , 2007, , .		1
89	III-V COMPOUND SEMICONDUCTOR NANOWIRES FOR OPTOELECTRONIC DEVICE APPLICATIONS. International Journal of High Speed Electronics and Systems, 2011, 20, 131-141.	0.7	1
90	Single GaAs/AlGaAs nanowire photoconductive terahertz detectors. , 2014, , .		1

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91	Single Nanowire Terahertz Detectors. , 2015, , .		1
92	Choice of Polymer Matrix for a Fast Switchable IIIâ€“V Nanowire Terahertz Modulator. MRS Advances, 2017, 2, 1475-1480.	0.9	1
93	Terahertz Time-Domain Spectroscopy. , 2020, 1, 1-4.		1
94	Active Terahertz Modulator and Slow Light Metamaterial Devices with Hybrid Graphene-superconductor Coupled Split-ring Resonator Arrays. , 2022, , .		1
95	Quantum Dots and Nanowires for Optoelectronic Device Applications. , 2006, , .		0
96	Quantum dots and nanowires for photonics applications. , 2006, , .		0
97	Optimised Two-Temperature Growth of GaAs Nanowires by Metalorganic Chemical Vapour Deposition. , 2006, , .		0
98	Structural and Optical Properties of III-V Nanowires and Nanowire Heterostructures Grown by Metalorganic Chemical Vapour Deposition. , 2007, , .		0
99	Failure and Formation of Axial Nanowire Heterostructures in Vapor-Liquid-Solid Growth. Materials Research Society Symposia Proceedings, 2007, 1058, 1.	0.1	0
100	Optical properties of single InP and GaAs nanowire heterostructures. , 2008, , .		0
101	Growth behavior of epitaxial semiconductor axial nanowire heterostructures. Optoelectronic and Microelectronic Materials and Devices (COMMAD), Conference on, 2008, , .	0.0	0
102	Growth, Structural and Optical Properties of High Quality GaAs Nanowires for Optoelectronics. , 2008, , .		0
103	Epitaxy of III-V semiconductor nanowires towards optoelectronic devices. , 2009, , .		0
104	Characterisation of nanostructures via terahertz spectroscopy. , 2010, , .		0
105	Improvement of morphology, structure, and optical properties of GaAs nanowires grown on Si substrates. , 2010, , .		0
106	Effect of high temperature post-annealing on sidewalls of GaAs NWs grown by MOCVD. , 2010, , .		0
107	Au-catalyzed InP nanowires: The influence of growth temperature and V/III ratio. , 2010, , .		0
108	Structural and optical characterization of vertical GaAs/GaP core-shell nanowires grown on Si substrates. , 2010, , .		0

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109	A comparative study of transistors based on wurtzite and zincblende InAs nanowires. , 2010, , .		0
110	Compound semiconductor nanowires for optoelectronic device applications. , 2011, , .		0
111	Environment induced variation in the photoconductivity of graphene observed by terahertz spectroscopy. , 2012, , .		0
112	Measuring the electrical properties of semiconductor nanowires using terahertz conductivity spectroscopy. Proceedings of SPIE, 2013, , .	0.8	0
113	Probing the critical electronic properties of III–V nanowires using optical pump-terahertz probe spectroscopy. , 2013, , .		0
114	Transient terahertz spectroscopy of mono- and tri-layer CVD-grown MoS<inf>2</inf>. , 2013, , .		0
115	III-V COMPOUND SEMICONDUCTOR NANOWIRES FOR OPTOELECTRONIC DEVICE APPLICATIONS. , 2013, , .		0
116	Nanoscale polymer electrolytes: Fabrication and applications using nanowire transistors. , 2014, , .		0
117	Photoconductive terahertz receivers utilizing single semiconductor nanowires. , 2015, , .		0
118	Terahertz spectroscopy of modulation doped core-shell GaAs/AlGaAs nanowires. , 2015, , .		0
119	Increased photoconductivity lifetimes in GaAs nanowires via n-type and p-type shell doping. , 2016, , .		0
120	Semiconductor nanowires in terahertz photonics: From spectroscopy to ultrafast nanowire-based devices. , 2017, , .		0
121	Properties of GaN nanowires with Sc_xGa_{1â^'x}N insertion. Physica Status Solidi (B): Basic Research, 2017, 254, 1600740.	1.5	0
122	Coherent Quantum Transport in Hybrid Superconductor-2DEG-Superconductor Planar Josephson Junctions. , 2017, , .		0
123	The Route to Nanoscale Terahertz Technology: Nanowire-based Terahertz Detectors and Terahertz Modulators. , 2018, , .		0
124	Andreev reflections and magnetotransport in 2D Josephson junctions. Journal of Physics: Conference Series, 2019, 1182, 012010.	0.4	0
125	Enhanced Performance of InAsP Nanowires with Ultra-thin Passivation Layer. , 2019, , .		0
126	Terahertz Spectroscopy to Unveil Intraband Scattering in Photoexcited Graphene. , 2019, , .		0

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127	An Ultrafast Semiconducting Nanowire THz Polarization Modulator. , 2019, , .		0
128	Modulation of Terahertz Polarization on Picosecond Timescales using Polymer-Encapsulated Semiconductor Nanowires. , 2017, , .		0
129	Engineering III-V nanowires for optoelectronics: from epitaxy to terahertz photonics. , 2018, , .		0
130	Ultrafast spectroscopy of lattice-charge carrier interactions in bismuth-based perovskites. , 0, , .		0
131	Engineering semiconductor nanowires for photodetection: from visible to terahertz. , 2018, , .		0
132	Engineering IIIâ€“V Nanowires for Optoelectronics: From Visible to Terahertz. , 2019, , .		0
133	Mapping Bulk and Interfacial Charge Carrier Recombination Dynamics in Perovskite Optoelectronic Devices. , 0, , .		0
134	High Charge Carrier Mobilities and Long Diffusion Lengths in Tin Based Metal Halide Perovskite. , 2020, , .		0
135	Giant Magnetoresistance in a Chemical Vapor Deposition Graphene Constriction. ACS Nano, 2022, , .	14.6	0