R R Lapierre

List of Publications by Year
in descending order

104 papers	2,961 citations	201674 27 h-index	182427 51 g-index
106 all docs	106 docs citations	106 times ranked	2725 citing authors

#	Article	IF	Citations
1	GaAs Coreâ^'Shell Nanowires for Photovoltaic Applications. Nano Letters, 2009, 9, 148-154.	9.1	430
2	IIIâ€"V nanowire photovoltaics: Review of design for high efficiency. Physica Status Solidi - Rapid Research Letters, 2013, 7, 815-830.	2.4	204
3	A review of IIIâ€"V nanowire infrared photodetectors and sensors. Journal Physics D: Applied Physics, 2017, 50, 123001.	2.8	175
4	Numerical model of current-voltage characteristics and efficiency of GaAs nanowire solar cells. Journal of Applied Physics, 2011, 109, .	2.5	98
5	Sulfur passivation and contact methods for GaAs nanowire solar cells. Nanotechnology, 2011, 22, 225402.	2.6	94
6	Nanowires for energy: A review. Applied Physics Reviews, 2018, 5, 041305.	11.3	92
7	Analytical description of the metal-assisted growth of IIIâ€"V nanowires: Axial and radial growths. Journal of Applied Physics, 2009, 105, .	2.5	86
8	Theoretical conversion efficiency of a two-junction III-V nanowire on Si solar cell. Journal of Applied Physics, 2011, 110, .	2.5	85
9	Control of GaAs nanowire morphology and crystal structure. Nanotechnology, 2008, 19, 495603.	2.6	75
10	GaP/GaAsP/GaP coreâ€"multishell nanowire heterostructures on (111) silicon. Nanotechnology, 2007, 18, 445304.	2.6	61
11	A GaAs nanowire/P3HT hybrid photovoltaic device. Nanotechnology, 2009, 20, 465205.	2.6	58
12	Optical characteristics of GaAs nanowire solar cells. Journal of Applied Physics, 2012, 112, .	2.5	53
13	Analytical model of surface depletion in GaAs nanowires. Journal of Applied Physics, 2012, 112, 063705.	2.5	51
14	Highly ordered vertical GaAs nanowire arrays with dry etching and their optical properties. Nanotechnology, 2014, 25, 305303.	2.6	48
15	Layer-by-layer and step-flow growth mechanisms in GaAsP/GaP nanowire heterostructures. Journal of Materials Research, 2006, 21, 2801-2809.	2.6	47
16	Onset of stacking faults in InP nanowires grown by gas source molecular beam epitaxy. Applied Physics Letters, 2007, 90, 013116.	3.3	45
17	Dependence of InGaP nanowire morphology and structure on molecular beam epitaxy growth conditions. Nanotechnology, 2010, 21, 165601.	2.6	44
18	Characterization of a Ga-Assisted GaAs Nanowire Array Solar Cell on Si Substrate. IEEE Journal of Photovoltaics, 2016, 6, 661-667.	2.5	43

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19	Doping assessment in GaAs nanowires. Nanotechnology, 2018, 29, 234001.	2.6	39
20	Model of patterned self-assisted nanowire growth. Nanotechnology, 2014, 25, 415304.	2.6	38
21	Structural and optical analysis of GaAsP/GaP core-shell nanowires. Journal of Applied Physics, 2009, 106, 124306.	2.5	37
22	Opportunities and pitfalls in patterned self-catalyzed GaAs nanowire growth on silicon. Semiconductor Science and Technology, 2013, 28, 105025.	2.0	37
23	Reverse Micelle Templating Route to Ordered Monodispersed Spherical Organo-Lead Halide Perovskite Nanoparticles for Light Emission. ACS Applied Nano Materials, 2019, 2, 4121-4132.	5.0	32
24	Critical shell thickness for InAs-AlxIn1âˆ’<i>x</i>As(P) core-shell nanowires. Journal of Applied Physics, 2012, 112, .	2.5	29
25	Wavelength-selective absorptance in GaAs, InP and InAs nanowire arrays. Nanotechnology, 2015, 26, 295202.	2.6	29
26	Three-fold Symmetric Doping Mechanism in GaAs Nanowires. Nano Letters, 2017, 17, 5875-5882.	9.1	29
27	Current matching and efficiency optimization in a two-junction nanowire-on-silicon solar cell. Nanotechnology, 2013, 24, 065402.	2.6	28
28	A growth interruption technique for stacking fault-free nanowire superlattices. Nanotechnology, 2009, 20, 025610.	2.6	27
29	Contact planarization of ensemble nanowires. Nanotechnology, 2011, 22, 245304.	2.6	27
30	Electrical transport and optical model of GaAs-AlInP core-shell nanowires. Journal of Applied Physics, 2012, 111, 094319.	2.5	27
31	Group V incorporation in InGaAsP grown on InP by gas source molecular beam epitaxy. Journal of Applied Physics, 1996, 79, 3021-3027.	2.5	26
32	Temperature-dependent electron mobility in InAs nanowires. Nanotechnology, 2013, 24, 225202.	2.6	26
33	Si Doping of Vaporâ€“Liquidâ€“Solid GaAs Nanowires: n-Type or p-Type?. Nano Letters, 2019, 19, 4498-4504.	9.1	26
34	Electrostatic model of radial pn junction nanowires. Journal of Applied Physics, 2013, 114, 074317.	2.5	25
35	Methods of Ga droplet consumption for improved GaAs nanowire solar cell efficiency. Nanotechnology, 2016, 27, 475403.	2.6	24
36	InGaAs/InP coreâ€“shell and axial heterostructure nanowires. Nanotechnology, 2007, 18, 385305.	2.6	23

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37	Effects of Be doping on InP nanowire growth mechanisms. Applied Physics Letters, 2012, 101, .	3.3	23
38	Conditions for high yield of selective-area epitaxy InAs nanowires on SiO_{<i>x</i>}/Si(111) substrates. Nanotechnology, 2015, 26, 465301.	2.6	23
39	Study of radial growth in patterned selfâ€catalyzed GaAs nanowire arrays by gas source molecular beam epitaxy. Physica Status Solidi - Rapid Research Letters, 2013, 7, 845-849.	2.4	22
40	Photoluminescence model for a hybrid aptamer-GaAs optical biosensor. Journal of Applied Physics, 2010, 107, 104702.	2.5	21
41	Photoluminescence and photocurrent from InP nanowires with InAsP quantum dots grown on Si by molecular beam epitaxy. Nanotechnology, 2015, 26, 315202.	2.6	21
42	Optimizations of GaAs Nanowire Solar Cells. IEEE Journal of Photovoltaics, 2016, 6, 1494-1501.	2.5	21
43	Growth and Characterization of GaAs Nanowires on Carbon Nanotube Composite Films: Toward Flexible Nanodevices. Nano Letters, 2008, 8, 4075-4080.	9.1	19
44	Improved conductivity and long-term stability of sulfur-passivated n-GaAs nanowires. Applied Physics Letters, 2012, 100, .	3.3	19
45	Unlocking doping and compositional profiles of nanowire ensembles using SIMS. Nanotechnology, 2013, 24, 045701.	2.6	19
46	Optical design of a mid-wavelength infrared InSb nanowire photodetector. Nanotechnology, 2016, 27, 315202.	2.6	19
47	Pyrrolidinium containing perovskites with thermal stability and water resistance for photovoltaics. Journal of Materials Chemistry C, 2019, 7, 11104-11108.	5.5	19
48	Electron transport in InAs-InAlAs core-shell nanowires. Applied Physics Letters, 2013, 102, 043115.	3.3	18
49	Trapped charge dynamics in InAs nanowires. Journal of Applied Physics, 2013, 113, .	2.5	18
50	Tuning the morphology of self-assisted GaP nanowires. Nanotechnology, 2018, 29, 225603.	2.6	18
51	Field Emission Characteristics of InSb Patterned Nanowires. Advanced Electronic Materials, 2020, 6, 2000402.	5.1	18
52	Dynamics of Gold Droplet Formation on SiO₂/Si(111) Surface. Journal of Physical Chemistry C, 2020, 124, 11946-11951.	3.1	17
53	Formation Mechanism of Twinning Superlattices in Doped GaAs Nanowires. Nano Letters, 2020, 20, 3344-3351.	9.1	17
54	Multispectral absorptance from large-diameter InAsSb nanowire arrays in a single epitaxial growth on silicon. Nano Futures, 2017, 1, 035001.	2.2	16

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55	Enhanced Photothermal Conversion in Vertically Oriented Gallium Arsenide Nanowire Arrays. Nano Letters, 2014, 14, 5820-5826.	9.1	15
56	GaAs quantum dots in a GaP nanowire photodetector. Nanotechnology, 2018, 29, 124003.	2.6	15
57	Magnetoconductance signatures of subband structure in semiconductor nanowires. Physical Review B, 2015, 91, .	3.2	14
58	Design and optimization of nanowire betavoltaic generators. Journal of Applied Physics, 2020, 127, 244303.	2.5	14
59	Efficient wave optics modeling of nanowire solar cells using rigorous coupled-wave analysis. Optics Express, 2019, 27, A133.	3.4	14
60	Be, Te, and Si Doping of GaAs Nanowires: Theory and Experiment. Journal of Physical Chemistry C, 2020, 124, 17299-17307.	3.1	13
61	Multi-spectral optical absorption in substrate-free nanowire arrays. Applied Physics Letters, 2014, 105, 123113.	3.3	12
62	Low resistance indium tin oxide contact to n-GaAs nanowires. Semiconductor Science and Technology, 2014, 29, 054002.	2.0	12
63	Nanowire dopant measurement using secondary ion mass spectrometry. Journal of Applied Physics, 2015, 118, .	2.5	11
64	Hybrid GaAs-Nanowireâ€“Carbon-Nanotube Flexible Photovoltaics. IEEE Journal of Selected Topics in Quantum Electronics, 2011, 17, 1070-1077.	2.9	10
65	InSb nanowires for multispectral infrared detection. Semiconductor Science and Technology, 2019, 34, 035023.	2.0	10
66	Surface depletion and electrical transport model of AlInP-passivated GaAs nanowires. Semiconductor Science and Technology, 2013, 28, 105026.	2.0	9
67	Crystal structure and optical characterization of heterostructured GaAs/AlGaAs/GaAs nanowires. Journal of Applied Physics, 2013, 113, .	2.5	8
68	Monitoring the Fermi-level position within the bandgap on a single nanowire: A tool for local investigations of doping. Journal of Applied Physics, 2013, 114, 154308.	2.5	8
69	Resonant photo-thermal modification of vertical gallium arsenide nanowires studied using Raman spectroscopy. Nanotechnology, 2016, 27, 245708.	2.6	8
70	Modeling selective-area growth of InAsSb nanowires. Nanotechnology, 2019, 30, 285601.	2.6	8
71	Optical and structural analysis of ultra-long GaAs nanowires after nitrogen-plasma passivation. Nano Express, 2020, 1, 020019.	2.4	8
72	GaAsP nanowire-on-Si tandem solar cell. Journal of Photonics for Energy, 2017, 7, 1.	1.3	8

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73	A study of disorder effects in random (AlxGa1â^'xAs)n(AlyGa1â^'yAs)m superlattices embedded in a wide parabolic potential. Applied Physics Letters, 2010, 96, 113106.	3.3	7
74	Surface passivation of tellurium-doped GaAs nanowires by GaP: Effect on electrical conduction. Journal of Applied Physics, 2014, 115, 234305.	2.5	7
75	Simulation of optical absorption in conical nanowires. Optics Express, 2021, 29, 9544.	3.4	7
76	GaP nanowire betavoltaic device. Nanotechnology, 2019, 30, 075401.	2.6	6
77	Conformal Growth of Radial InGaAs Quantum Wells in GaAs Nanowires. Journal of Physical Chemistry Letters, 2021, 12, 1275-1283.	4.6	6
78	Epitaxial thin film transfer for flexible devices from reusable substrates. Materials Research Express, 2019, 6, 025913.	1.6	5
79	Selective Area Growth by Hydride Vapor Phase Epitaxy and Optical Properties of InAs Nanowire Arrays. Crystal Growth and Design, 2021, 21, 5158-5163.	3.0	5
80	Modelling thermoelectric transport in IIIâ€"V nanowires using a Boltzmann transport approach: a review. Nanotechnology, 2021, 32, 042001.	2.6	5
81	Thermal Transport in Twinning Superlattice and Mixed-Phase GaAs Nanowires. Nanoscale, 2022, , .	5.6	5
82	Simulation and optimization of current generation in gallium phosphide nanowire betavoltaic devices. Journal of Applied Physics, 2019, 125, .	2.5	4
83	Long catalyst-free InAs nanowires grown on silicon by HVPE. CrystEngComm, 2021, 23, 378-384.	2.6	4
84	Characterization of InSb nanopillars for field emission applications. Journal of Physics: Conference Series, 2021, 1765, 012004.	0.4	4
85	Modeling the dynamics of interface morphology and crystal phase change in self-catalyzed GaAs nanowires. Nanotechnology, 2020, 31, 485602.	2.6	4
86	Thermal Conductivity of GaAs Nanowire Arrays Measured by the 3Ï‰ Method. Nanomaterials, 2022, 12, 1288.	4.1	4
87	Photovoltaic Light Funnels Grown by GaAs Nanowire Droplet Dynamics. IEEE Journal of Photovoltaics, 2019, 9, 1225-1231.	2.5	3
88	Stacking defects in GaP nanowires: Electronic structure and optical properties. Journal of Applied Physics, 2019, 126, 084306.	2.5	3
89	Improving the yield of GaAs nanowires on silicon by Ga pre-deposition. Nanotechnology, 2021, 32, 265301.	2.6	3
90	Genetic Algorithm Optimization of Core-Shell Nanowire Betavoltaic Generators. Nanotechnology, 2020, 31, 455403.	2.6	3

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91	Phase Diagram for Twinning Superlattice Te-Doped GaAs Nanowires. Nano Letters, 2022, 22, 1345-1349.	9.1	3
92	Optimization of GaAs nanowire solar cell efficiency via optoelectronic modeling. , 2015, , .		2
93	Recombination kinetics of photogenerated electrons in InGaAs/InP quantum wells. Journal of Applied Physics, 2016, 119, 094301.	2.5	2
94	Optical Optimization of Passivated GaAs Nanowire Solar Cells. , 2017, , .		1
95	Microstructure development and photoluminescence of annealed nanosized Ce:YAG/Al₂O₃ and Ce:YAG/Cr:Al₂O₃ powder composites. Materials Research Express, 2018, 5, 036207.	1.6	1
96	Inter-valley phonon-assisted Auger recombination in InGaAs/InP quantum well. Journal of Applied Physics, 2019, 125, 155703.	2.5	1
97	InAsSb pillars for multispectral long-wavelength infrared absorption. Infrared Physics and Technology, 2020, 111, 103566.	2.9	1
98	Low temperature micro-photoluminescence spectroscopy of microstructures with InAsP/InP strained quantum wells. Journal Physics D: Applied Physics, 2021, 54, 445106.	2.8	1
99	Growth and Characterization of p-n Junction Core-Shell GaAs Nanowires on Carbon Nanotube Composite Films. Materials Research Society Symposia Proceedings, 2008, 1144, 1.	0.1	0
100	Electron and hole scattering in short-period InGaAs/InP superlattices. Journal of Applied Physics, 2011, 110, 073706.	2.5	0
101	Modeling growth, morphology, and composition of ternary III – V nanowires. , 2013, , .		0
102	Recombination dynamics of Landau levels in an InGaAs/InP quantum well. Physical Review B, 2018, 98, .	3.2	0
103	Editorial for focus collection on nanophotonics and nano-optics. Nanotechnology, 2019, 30, 360401.	2.6	0
104	In Memoriam - Professor Mark Reed. Nano Futures, 0, , .	2.2	0