

Roberto C Myers

List of Publications by Year in descending order

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98
papers

8,305
citations

101496

36
h-index

43868

91
g-index

100
all docs

100
docs citations

100
times ranked

7361
citing authors

#	ARTICLE	IF	CITATIONS
1	Observation of the Spin Hall Effect in Semiconductors. <i>Science</i> , 2004, 306, 1910-1913.	6.0	2,247
2	Observation of the spin-Seebeck effect in a ferromagnetic semiconductor. <i>Nature Materials</i> , 2010, 9, 898-903.	13.3	665
3	Coherent spin manipulation without magnetic fields in strained semiconductors. <i>Nature</i> , 2004, 427, 50-53.	13.7	436
4	Spatial imaging of the spin Hall effect and current-induced polarization in two-dimensional electron gases. <i>Nature Physics</i> , 2005, 1, 31-35.	6.5	415
5	Current-Induced Spin Polarization in Strained Semiconductors. <i>Physical Review Letters</i> , 2004, 93, 176601.	2.9	373
6	Spin caloritronics. <i>Energy and Environmental Science</i> , 2014, 7, 885.	15.6	361
7	Highly enhanced Curie temperature in low-temperature annealed [Ga,Mn]As epilayers. <i>Applied Physics Letters</i> , 2003, 82, 2302-2304.	1.5	302
8	p-type doping of MoS ₂ thin films using Nb. <i>Applied Physics Letters</i> , 2014, 104, 092104.	1.5	268
9	Gigahertz Electron Spin Manipulation Using Voltage-Controlled g-Tensor Modulation. <i>Science</i> , 2003, 299, 1201-1204.	6.0	254
10	Spin-Seebeck Effect: A Phonon Driven Spin Distribution. <i>Physical Review Letters</i> , 2011, 106, 186601.	2.9	168
11	Giant spin Seebeck effect in a non-magnetic material. <i>Nature</i> , 2012, 487, 210-213.	13.7	164
12	Generating Spin Currents in Semiconductors with the Spin Hall Effect. <i>Physical Review Letters</i> , 2006, 97, 096605.	2.9	123
13	Suppression of Spin Relaxation in Submicron InGaAs Wires. <i>Physical Review Letters</i> , 2006, 97, 036805.	2.9	115
14	Effect of the magnon dispersion on the longitudinal spin Seebeck effect in yttrium iron garnets. <i>Physical Review B</i> , 2015, 92, .	1.1	111
15	Polarization-Induced pn Diodes in Wide-Band-Gap Nanowires with Ultraviolet Electroluminescence. <i>Nano Letters</i> , 2012, 12, 915-920.	4.5	106
16	Long-range pure magnon spin diffusion observed in a nonlocal spin-Seebeck geometry. <i>Physical Review B</i> , 2015, 92, .	1.1	104
17	Semiconductor Nanowire Light-Emitting Diodes Grown on Metal: A Direction Toward Large-Scale Fabrication of Nanowire Devices. <i>Small</i> , 2015, 11, 5402-5408.	5.2	99
18	Three-Dimensional GaN/AlN Nanowire Heterostructures by Separating Nucleation and Growth Processes. <i>Nano Letters</i> , 2011, 11, 866-871.	4.5	97

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19	Nanowire LEDs grown directly on flexible metal foil. Applied Physics Letters, 2016, 108, .	1.5	93
20	Mixed Polarity in Polarization-Induced p-n Junction Nanowire Light-Emitting Diodes. Nano Letters, 2013, 13, 3029-3035.	4.5	77
21	Structural, electrical, and magneto-optical characterization of paramagnetic GaMnAs quantum wells. Physical Review B, 2005, 72, .	1.1	70
22	Enhancement of spin coherence using Q-factor engineering in semiconductor microdisc lasers. Nature Materials, 2006, 5, 261-264.	13.3	69
23	Zero-field optical manipulation of magnetic ions in semiconductors. Nature Materials, 2008, 7, 203-208.	13.3	67
24	Antiferromagnetic d-Exchange Coupling in GaMnAs. Physical Review Letters, 2005, 95, 017204.	2.9	59
25	Onset of Ferromagnetism in Low-Doped $\text{Ga}_{1-x}\text{Mn}_x$. Physical Review Letters, 2007, 99, 227205.	2.9	59
26	Tunnel junction enhanced nanowire ultraviolet light emitting diodes. Applied Physics Letters, 2015, 107, .	1.5	58
27	Stoichiometric growth of high Curie temperature heavily alloyed GaMnAs. Applied Physics Letters, 2008, 92, 192502.	1.5	57
28	GaN Nanoisland-Based GaN Tunnel Junctions. Nano Letters, 2013, 13, 2570-2575.	4.5	54
29	Tunable spin polarization in III-V quantum wells with a ferromagnetic barrier. Physical Review B, 2004, 69, .	1.1	53
30	Deep ultraviolet emitting polarization induced nanowire light emitting diodes with Al _x Ga _{1-x} N active regions. Nanotechnology, 2014, 25, 455201.	1.3	53
31	Molecular beam epitaxy of 2D-layered gallium selenide on GaN substrates. Journal of Applied Physics, 2017, 121, .	1.1	52
32	Local Manipulation of Nuclear Spin in a Semiconductor Quantum Well. Physical Review Letters, 2003, 91, 207602.	2.9	49
33	Antisite effect on hole-mediated ferromagnetism in (Ga,Mn)As. Physical Review B, 2006, 74, .	1.1	45
34	Phonon-induced diamagnetic force and its effect on the lattice thermal conductivity. Nature Materials, 2015, 14, 601-606.	13.3	45
35	Electrical initialization and manipulation of electron spins in an L-shaped strained n-InGaAs channel. Applied Physics Letters, 2005, 87, 022503.	1.5	44
36	Ultrathin GaN quantum disk nanowire LEDs with sub-250 nm electroluminescence. Nanoscale, 2016, 8, 8024-8032.	2.8	44

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37	Exploiting piezoelectric charge for high performance graded InGaN nanowire solar cells. Applied Physics Letters, 2012, 101, .	1.5	37
38	Deep traps in nonpolar m-plane GaN grown by ammonia-based molecular beam epitaxy. Applied Physics Letters, 2012, 100, .	1.5	36
39	Coaxial nanowire resonant tunneling diodes from non-polar AlN/GaN on silicon. Applied Physics Letters, 2012, 100, .	1.5	35
40	Spin transfer and coherence in coupled quantum wells. Physical Review B, 2004, 70, .	1.1	33
41	Scalable Nernst thermoelectric power using a coiled galphenol wire. AIP Advances, 2017, 7, .	0.6	33
42	Dimensionally constrained D'yakonov-Perel' spin relaxation in n-InGaAs channels: transition from 2D to 1D. New Journal of Physics, 2007, 9, 342-342.	1.2	32
43	Independent electronic and magnetic doping in (Ga,Mn)As based digital ferromagnetic heterostructures. Physical Review B, 2003, 68, .	1.1	31
44	Confinement engineering of s-d exchange interactions in $\text{Ga}_{1-x}\text{Mn}_x\text{As}_y\text{Al}_y\text{Ga}_{1-y}\text{As}$ quantum wells. Physical Review B, 2007, 75, .	1.1	31
45	Electron spin interferometry using a semiconductor ring structure. Applied Physics Letters, 2005, 86, 162107.	1.5	30
46	Thermally driven long-range magnon spin currents in yttrium iron garnet due to intrinsic spin Seebeck effect. Physical Review B, 2017, 96, .	1.1	30
47	Immersed probe of the insulator-to-metal transition in $\text{Ga}_{1-x}\text{Mn}_x\text{As}_y\text{Al}_y\text{Ga}_{1-y}\text{As}$ quantum wells. Applied Physics Letters, 2017, 110, 162107.	1.1	25
48	Optical Control of Internal Electric Fields in Band Gap-Graded InGaN Nanowires. Nano Letters, 2015, 15, 332-338.	4.5	25
49	Deep-Recessed In^{2+} -Ga δ ,O δ ,f Delta-Doped Field-Effect Transistors With <i>In Situ</i> Epitaxial Passivation. IEEE Transactions on Electron Devices, 2020, 67, 4813-4819.	1.6	25
50	Control of electron-spin coherence using Landau level quantization in a two-dimensional electron gas. Physical Review B, 2004, 70, .	1.1	23
51	Epitaxial ferromagnetic nanoislands of cubic GdN in hexagonal GaN. Applied Physics Letters, 2012, 100, .	1.5	23
52	Spatial imaging and mechanical control of spin coherence in strained GaAs epilayers. Applied Physics Letters, 2006, 88, 241918.	1.5	22
53	Excimer-Mediated Intermolecular Charge Transfer in Self-Assembled Donor-Acceptor Dyes on Metal Oxides. Journal of the American Chemical Society, 2019, 141, 8727-8731.	6.6	22
54	Catalyst-free ZnO nanowires on silicon by pulsed laser deposition with tunable density and aspect ratio. Physica E: Low-Dimensional Systems and Nanostructures, 2014, 62, 95-103.	1.3	20

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55	Tuning the polarization-induced free hole density in nanowires graded from GaN to AlN. Applied Physics Letters, 2015, 106, .	1.5	20
56	Interlayer and interfacial exchange coupling in ferromagnetic metal/semiconductor heterostructures. Physical Review B, 2010, 81, .	1.1	19
57	Pinning a domain wall in (Ga,Mn)As with focused ion beam lithography. Applied Physics Letters, 2004, 85, 5622-5624.	1.5	18
58	Optoelectronic control of spin dynamics at near-terahertz frequencies in magnetically doped quantum wells. Physical Review B, 2005, 72, .	1.1	18
59	Ferromagnetism and infrared electrodynamic of Ga _{1-x} Mn _x As. Physical Review B, 2013, 87, .	1.1	18
60	Nanoscale current uniformity and injection efficiency of nanowire light emitting diodes. Applied Physics Letters, 2018, 112, .	1.5	18
61	Long lifetime of thermally excited magnons in bulk yttrium iron garnet. Physical Review B, 2019, 100, .	1.1	18
62	Electronic Structure and Photocatalytic Water Oxidation Activity of TiNO_2 ($\text{R} = \text{Ce, Pr, and Nd}$) Perovskite Nitride Oxides. Chemistry of Materials, 2015, 27, 2414-2420.	3.2	17
63	Nonlocal Spin Transport Mediated by a Vortex Liquid in Superconductors. Physical Review Letters, 2018, 121, 187203.	2.9	16
64	Nanoscale Electronic Conditioning for Improvement of Nanowire Light-Emitting-Diode Efficiency. ACS Nano, 2018, 12, 3551-3556.	7.3	14
65	Molecular Beam Epitaxy of Graded-Composition InGaN Nanowires. Journal of Electronic Materials, 2013, 42, 863-867.	1.0	13
66	Spin-Seebeck like signal in ferromagnetic bulk metallic glass without platinum contacts. Solid State Communications, 2014, 198, 40-44.	0.9	12
67	Room temperature electron spin coherence in telecom-wavelength quaternary quantum wells. Applied Physics Letters, 2006, 89, 142104.	1.5	11
68	Full-Scale Characterization of UVLED $\text{Al}_x\text{Ga}_{1-x}\text{N}$ Nanowires via Advanced Electron Microscopy. ACS Nano, 2013, 7, 5045-5051.	7.3	10
69	Molecular beam epitaxy of InN nanowires on Si. Journal of Crystal Growth, 2015, 428, 59-70.	0.7	10
70	Tunneling through MnAs particles at a GaAs p^+n^+ junction. Journal of Vacuum Science & Technology B, 2006, 24, 1639.	1.3	9
71	Effect of quantum well shape and width on deep ultraviolet emission in AlGaIn nanowire LEDs. Physica Status Solidi (A) Applications and Materials Science, 2016, 213, 947-952.	0.8	9
72	Atomically sharp 318nm Gd:AlGaIn ultraviolet light emitting diodes on Si with low threshold voltage. Applied Physics Letters, 2013, 102, .	1.5	8

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73	Single nanowire AlN/GaN double barrier resonant tunneling diodes with bipolar tunneling at room and cryogenic temperatures. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2013, 31, 06FA03.	0.6	7
74	Self-assembled InN micro-mushrooms by upside-down pendeoepitaxy. Journal of Crystal Growth, 2016, 443, 90-97.	0.7	7
75	Nano-Cathodoluminescence Measurement of Asymmetric Carrier Trapping and Radiative Recombination in GaN and InGaN Quantum Disks. Microscopy and Microanalysis, 2018, 24, 93-98.	0.2	7
76	Enhanced uniformity of III-nitride nanowire arrays on bulk metallic glass and nanocrystalline substrates. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2019, 37, .	0.6	7
77	Spectral Measurement of the Breakdown Limit of $\text{Ga}_{1-x}\text{Mn}_x\text{As}_2$ and Tunnel Ionization of Self-Trapped Excitons and Holes. Physical Review Applied, 2021, 16, .		
78	Ferromagnetic Epitaxial $\text{Fe}_{1/4}\text{Fe}_2\text{O}_3$ on Ga_2O_3 : A New Monoclinic Form of Fe_2O_3 . Crystal Growth and Design, 2019, 19, 4205-4211.	1.4	5
79	Semipolar InN/AlN multiple quantum wells on $\{101\}$ faceted AlN on silicon. Applied Physics Letters, 2013, 103, .	1.5	4
80	Polarized Emission From Twin Microdisk Photonic Molecules. IEEE Journal of Quantum Electronics, 2009, 45, 932-936.	1.0	3
81	Graded nanowire ultraviolet LEDs by polarization engineering. , 2012, , .		3
82	Hexagonal Nanopyramidal Prisms of Nearly Intrinsic InN on Patterned GaN Nanowire Arrays. Crystal Growth and Design, 2018, 18, 1191-1197.	1.4	3
83	Controlled nucleation of monolayer MoSe2 islands on Si (111) by MBE. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2019, 37, 021211.	0.6	3
84	Molecular beam epitaxy of GaN on 2H-MoS_2 . Applied Physics Letters, 2020, 117, .	1.5	3
85	Manipulating a domain wall in (Ga,Mn)As. Journal of Applied Physics, 2005, 97, 10D314.	1.1	2
86	Anisotropic defect-induced ferromagnetism and transport in Gd-doped GaN two-dimensional electron gasses. Physical Review B, 2015, 92, .	1.1	2
87	Simultaneous molecular beam epitaxy growth at multiple uniform substrate temperatures. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2018, 36, 011203.	0.6	2
88	Local electric field measurement in GaN diodes by exciton Franz-Keldysh photocurrent spectroscopy. Applied Physics Letters, 2020, 116, .	1.5	2
89	Chapter 1 Single Spin Coherence in Semiconductors. Semiconductors and Semimetals, 2008, , 1-44.	0.4	1
90	Electron Energy Loss Spectroscopy and Localized Cathodoluminescence Characterization of GaN Quantum Discs. Microscopy and Microanalysis, 2014, 20, 578-579.	0.2	1

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91	Tunnel junction integrated ultraviolet nanowire LEDs. , 2015, , .		1
92	Three-dimensional lattice matching of epitaxially embedded nanoparticles. Journal of Crystal Growth, 2017, 459, 209-214.	0.7	1
93	Compositionally Graded III-Nitride Nanowire Heterostructures: Growth, Characterization, and Applications. , 2014, , 85-119.		1
94	Interface-induced ferromagnetism in $\frac{1}{4}$ -Fe ₂ O ₃ / $\frac{1}{2}$ -Ga ₂ O ₃ superlattices. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2020, 38, .	0.9	1
95	Local manipulation of nuclear spin in a semiconductor quantum well. , 2005, , .		0
96	Nuclear and ion spins in semiconductor nanostructures. Physica E: Low-Dimensional Systems and Nanostructures, 2006, 35, 264-271.	1.3	0
97	Record low tunnel junction specific resistivity (&#60;) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf 50 507 Td (3×1 inter-band tunnel junctions. , 2012, , .		0
98	Moving spins with heat: Prospects for thermally powered spintronics. , 2015, , .		0