

Leigh M Smith

List of Publications by Year in descending order

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137
papers

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citations

109137

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149479

56
g-index

138
all docs

138
docs citations

138
times ranked

3169
citing authors

#	ARTICLE	IF	CITATIONS
1	III-V semiconductor nanowires for optoelectronic device applications. Progress in Quantum Electronics, 2011, 35, 23-75.	3.5	256
2	Polarization and temperature dependence of photoluminescence from zincblende and wurtzite InP nanowires. Applied Physics Letters, 2007, 91, .	1.5	196
3	Carrier Dynamics and Quantum Confinement in type II ZB-WZ InP Nanowire Homostructures. Nano Letters, 2009, 9, 648-654.	4.5	168
4	Temperature dependence of photoluminescence from single core-shell GaAs-AlGaAs nanowires. Applied Physics Letters, 2006, 89, 173126.	1.5	158
5	Unexpected Benefits of Rapid Growth Rate for III-V Nanowires. Nano Letters, 2009, 9, 695-701.	4.5	126
6	Nearly intrinsic exciton lifetimes in single twin-free GaAs-AlGaAs core-shell nanowire heterostructures. Applied Physics Letters, 2008, 93, .	1.5	109
7	Optical, Structural, and Numerical Investigations of GaAs/AlGaAs Core-Multishell Nanowire Quantum Well Tubes. Nano Letters, 2013, 13, 1016-1022.	4.5	106
8	Direct Measure of Strain and Electronic Structure in GaAs/GaP Core-Shell Nanowires. Nano Letters, 2010, 10, 880-886.	4.5	101
9	The effect of V/III ratio and catalyst particle size on the crystal structure and optical properties of InP nanowires. Nanotechnology, 2009, 20, 225606.	1.3	99
10	High Purity GaAs Nanowires Free of Planar Defects: Growth and Characterization. Advanced Functional Materials, 2008, 18, 3794-3800.	7.8	97
11	Temperature-dependent micro-photoluminescence of individual CdSe self-assembled quantum dots. Applied Physics Letters, 1999, 75, 214-216.	1.5	95
12	Evidence for 2D Precursors and Interdiffusion in the Evolution of Self-Assembled CdSe Quantum Dots on ZnSe. Physical Review Letters, 2000, 85, 1124-1127.	2.9	87
13	Picosecond imaging of photoexcited carriers in quantum wells: Anomalous lateral confinement at high densities. Physical Review B, 1988, 38, 5788-5791.	1.1	68
14	Doping-enhanced radiative efficiency enables lasing in unpassivated GaAs nanowires. Nature Communications, 2016, 7, 11927.	5.8	68
15	Optically-induced magnetization of CdMnTe self-assembled quantum dots. Applied Physics Letters, 2004, 84, 3337-3339.	1.5	62
16	Phonon-wind-driven transport of photoexcited carriers in a semiconductor quantum well. Physical Review B, 1989, 39, 1862-1870.	1.1	58
17	Temperature dependent photoluminescence of single CdS nanowires. Applied Physics Letters, 2006, 89, 123123.	1.5	56
18	Room temperature photocurrent spectroscopy of single zincblende and wurtzite InP nanowires. Applied Physics Letters, 2009, 94, 193115.	1.5	50

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19	Dynamics of Strongly Degenerate Electron-Hole Plasmas and Excitons in Single InP Nanowires. Nano Letters, 2007, 7, 3383-3387.	4.5	49
20	Emergence of Localized States in Narrow GaAs/AlGaAs Nanowire Quantum Well Tubes. Nano Letters, 2015, 15, 1876-1882.	4.5	49
21	Quantum Dot Exciton Dynamics through a Nanoaperture: Evidence for Two Confined States. Physical Review Letters, 1999, 83, 2797-2800.	2.9	47
22	Probing valence band structure in wurtzite InP nanowires using excitation spectroscopy. Applied Physics Letters, 2010, 97, 023106.	1.5	44
23	Polarized Light Absorption in Wurtzite InP Nanowire Ensembles. Nano Letters, 2015, 15, 998-1005.	4.5	44
24	Time-resolved study of electron-hole plasmas near the liquid-gas critical point in Si: Evidence for a second condensed phase. Physical Review B, 1995, 51, 7521-7543.	1.1	43
25	Spatially Resolved Doping Concentration and Nonradiative Lifetime Profiles in Single Si-Doped InP Nanowires Using Photoluminescence Mapping. Nano Letters, 2015, 15, 3017-3023.	4.5	43
26	Defect-Free GaAs/AlGaAs Core-Shell Nanowires on Si Substrates. Crystal Growth and Design, 2011, 11, 3109-3114.	1.4	42
27	Exciton spin relaxation time in quantum dots measured by continuous-wave photoluminescence spectroscopy. Applied Physics Letters, 2003, 83, 5524-5526.	1.5	41
28	Resonant Excitation and Imaging of Nonequilibrium Exciton Spins in Single Core-Shell GaAs-AlGaAs Nanowires. Nano Letters, 2007, 7, 588-595.	4.5	41
29	Spectroscopic characterization of the evolution of self-assembled CdSe quantum dots. Applied Physics Letters, 1998, 73, 3399-3401.	1.5	40
30	Antimony Induced {112}A Faceted Triangular GaAs _{1-x} Sb _x /InP Core/Shell Nanowires and Their Enhanced Optical Quality. Advanced Functional Materials, 2015, 25, 5300-5308.	7.8	40
31	Resonant Raman scattering from CdS nanowires. Applied Physics Letters, 2006, 88, 043118.	1.5	39
32	Ultrafast photoinduced band splitting and carrier dynamics in chiral tellurium nanosheets. Nature Communications, 2020, 11, 3991.	5.8	39
33	Low-temperature photoluminescence imaging and time-resolved spectroscopy of single CdS nanowires. Applied Physics Letters, 2006, 89, 053119.	1.5	38
34	Novel growth and properties of GaAs nanowires on Si substrates. Nanotechnology, 2010, 21, 035604.	1.3	38
35	Tuning the properties of magnetic CdMnTe quantum dots. Applied Physics Letters, 2003, 83, 3575-3577.	1.5	37
36	Insights into single semiconductor nanowire heterostructures using time-resolved photoluminescence. Semiconductor Science and Technology, 2010, 25, 024010.	1.0	37

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37	Exciton-controlled magnetization in single magnetic quantum dots. Applied Physics Letters, 2005, 87, 072502.	1.5	34
38	Intrinsic recombination and interface characterization in AlGaIn -surface-free GaAs structures. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 1991, 9, 2369.	1.6	31
39	Growth and properties of III-V compound semiconductor heterostructure nanowires. Semiconductor Science and Technology, 2011, 26, 014035.	1.0	31
40	Resonant spectroscopy of II-VI self-assembled quantum dots: Excited states and exciton-longitudinal optical phonon coupling. Physical Review B, 2004, 70, .	1.1	30
41	Optical properties of annealed CdTe self-assembled quantum dots. Applied Physics Letters, 2003, 83, 254-256.	1.5	27
42	Selective excitation of exciton transitions in PTCDA crystals and films. Physical Review B, 2010, 81, .	1.1	27
43	Second Condensed Phase of Electron-Hole Plasma in Si. Physical Review Letters, 1986, 57, 2314-2317.	2.9	26
44	Origin of two types of excitons in CdSe dots on ZnSe. Physical Review B, 2000, 61, R2405-R2408.	1.1	23
45	Transient Rayleigh Scattering: A New Probe of Picosecond Carrier Dynamics in a Single Semiconductor Nanowire. Nano Letters, 2012, 12, 5389-5395.	4.5	22
46	Illuminating the Second Conduction Band and Spin-Orbit Energy in Single Wurtzite InP Nanowires. Nano Letters, 2013, 13, 5367-5372.	4.5	22
47	Phonons and exciton recombination in CdSe/ZnSe self-assembled quantum dots. Applied Physics Letters, 2000, 77, 1813.	1.5	21
48	Quantum Confined Stark Effect in a GaAs/AlGaAs Nanowire Quantum Well Tube Device: Probing Exciton Localization. Nano Letters, 2015, 15, 7847-7852.	4.5	21
49	Revealing Optical Transitions and Carrier Recombination Dynamics within the Bulk Band Structure of $\text{Bi}_{2-x}\text{Se}_3$. Nano Letters, 2018, 18, 5875-5884.	4.5	21
50	Ultralong spin memory of optically excited single magnetic quantum dots. Applied Physics Letters, 2008, 93, .	1.5	20
51	Photomodulated Rayleigh Scattering of Single Semiconductor Nanowires: Probing Electronic Band Structure. Nano Letters, 2011, 11, 4329-4336.	4.5	20
52	Observation of long-lived exciton magnetic polarons in $\text{Zn}_{1-x}\text{MnxSe}/\text{ZnSe}$ multiple quantum wells. Physical Review B, 1994, 50, 18662-18665.	1.1	19
53	Exciton spin relaxation in quasiresonantly excited CdTe-ZnTe self-assembled quantum dots. Physical Review B, 2004, 70, .	1.1	19
54	Quantum confinement of excitons in wurtzite InP nanowires. Journal of Applied Physics, 2015, 117, .	1.1	19

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55	Effects of Surface Passivation on Twin-Free GaAs Nanosheets. ACS Nano, 2015, 9, 1336-1340.	7.3	18
56	Photoexcited carrier lifetimes and spatial transport in surface-free GaAs homostructures. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 1990, 8, 787.	1.6	17
57	Sensitivity of exciton spin relaxation in quantum dots to confining potential. Applied Physics Letters, 2005, 86, 103101.	1.5	17
58	Raman stress mapping of CdS nanosheets. Applied Physics Letters, 2009, 95, 083105.	1.5	17
59	Zn ₃ As ₂ Nanowires and Nanoplatelets: Highly Efficient Infrared Emission and Photodetection by an Earth Abundant Material. Nano Letters, 2015, 15, 378-385.	4.5	17
60	Optical observation of quantum-dot formation in sub-critical CdSe layers grown on ZnSe. Journal of Crystal Growth, 2000, 214-215, 761-764.	0.7	16
61	Subwavelength multichannel imaging using a solid immersion lens: Spectroscopy of excitons in single quantum dots. Applied Physics Letters, 2004, 85, 5463-5465.	1.5	16
62	Optical studies of zero-field magnetization of CdMnTe quantum dots: Influence of average size and composition of quantum dots. Journal of Applied Physics, 2004, 96, 7407-7413.	1.1	16
63	Carrier Thermalization Dynamics in Single Zincblende and Wurtzite InP Nanowires. Nano Letters, 2014, 14, 7153-7160.	4.5	16
64	Thermal relaxation of excitons in ZnSe and Zn _{1-x} MnxSe diluted magnetic semiconductors. Physical Review B, 1997, 55, 5062-5064.	1.1	15
65	The morphology and evolution of bipyramidal gold nanoparticles. Nanotechnology, 2011, 22, 275607.	1.3	14
66	Resonant photoluminescence imaging and the origin of excited states in self-assembled quantum dots. Physical Review B, 2007, 76, .	1.1	13
67	Direct imaging of the spatial diffusion of excitons in single semiconductor nanowires. Applied Physics Letters, 2011, 99, 263110.	1.5	13
68	Strong Hot Carrier Effects in Single Nanowire Heterostructures. Nano Letters, 2019, 19, 5062-5069.	4.5	13
69	Relaxation dynamics of bimodally distributed CdSe quantum dots. Physical Review B, 2007, 75, .	1.1	12
70	Exciton spin thermalization in strained and relaxed Zn _{1-x} MnxSe epilayers. Physical Review B, 1999, 59, 7610-7619.	1.1	11
71	Polarized photoluminescence and time-resolved photoluminescence from single CdS nanosheets. Applied Physics Letters, 2008, 92, .	1.5	10
72	A Raman probe of phonons and electron-phonon interactions in the Weyl semimetal NbIrTe ₄ . Scientific Reports, 2021, 11, 8155.	1.6	10

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73	Spatially resolved photoluminescence mapping of single CdS nanosheets. Applied Physics Letters, 2008, 92, .	1.5	9
74	Radiative recombination in surface-free GaAs homostructures. Applied Physics Letters, 1990, 57, 1572-1574.	1.5	8
75	Thermal Delocalization of Excitons in GaAs/AlGaAs Quantum Well Tube Nanowires. Nano Letters, 2016, 16, 1392-1397.	4.5	8
76	Radiative Recombination and Carrier Lifetimes in Surface-Free GaAs Homostructures. Materials Research Society Symposia Proceedings, 1989, 163, 95.	0.1	7
77	Interface Phonons in CdSe/ZnSe Self-Assembled Quantum Dot Structures. Physica Status Solidi (B): Basic Research, 2001, 224, 165-168.	0.7	7
78	Photocurrent spectroscopy of single CdS nanosheets: Valence band structure and two photon absorption. Applied Physics Letters, 2011, 98, 143102.	1.5	7
79	Exploring the band structure of Wurtzite InAs nanowires using photocurrent spectroscopy. Nano Research, 2020, 13, 1586-1591.	5.8	7
80	Magnetic interference effect in the electrical resistivity of amorphous simple metal alloys: Mg-Zn(Gd). Journal of Physics F: Metal Physics, 1982, 12, L101-L106.	1.6	5
81	Tuning the optical and magnetic properties of II-VI quantum dots by post-growth rapid thermal annealing. Physica Status Solidi (B): Basic Research, 2004, 241, 652-655.	0.7	5
82	Exciton-LO phonon interaction in II-VI self-assembled quantum dots. Physica Status Solidi C: Current Topics in Solid State Physics, 2004, 1, 767-770.	0.8	5
83	Tuning spin properties of excitons in single CdTe quantum dots by annealing. Nanotechnology, 2008, 19, 125706.	1.3	5
84	Time-dependent heterointerfacial band bending and quasi-two-dimensional excitonic transport in GaAs structures. Physical Review B, 1998, 58, 4728-4732.	1.1	4
85	Probing CdSe/ZnSe self-assembled quantum dots by cw and time-resolved photoluminescence. Physica E: Low-Dimensional Systems and Nanostructures, 2001, 11, 59-62.	1.3	4
86	Probing the excited state distributions of CdTe/ZnTe self-assembled quantum dots using resonant Raman scattering. Applied Physics Letters, 2005, 87, 183104.	1.5	4
87	Nanowires for optoelectronic device applications. Physica Status Solidi C: Current Topics in Solid State Physics, 2009, 6, 2678-2682.	0.8	4
88	Growth and properties of III-V compound semiconductor heterostructure nanowires. Semiconductor Science and Technology, 2012, 27, 059501.	1.0	4
89	Smith and Wolfe respond. Physical Review Letters, 1987, 58, 2823-2823.	2.9	3
90	Driven Spin-Transport of Exciton Magnetic Polarons in Zn _{0.86} Mn _{0.14} Se/ZnSe Quantum Wells. Physica Status Solidi A, 1997, 164, 547-551.	1.7	3

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91	Photoluminescence of CdSe self-assembled quantum dots: Experiments and models. Physical Review B, 2003, 68, .	1.1	3
92	III-V compound semiconductor nanowires. , 2009, , .		3
93	Time Resolved Photoluminescence from Patterned GaAs/AlGaAs Multiple Quantum Well Structures. Materials Research Society Symposia Proceedings, 1993, 326, 531.	0.1	2
94	Optical studies of spin relaxation in CdTe self-assembled quantum dots. Physica Status Solidi C: Current Topics in Solid State Physics, 2004, 1, 937-940.	0.8	2
95	Vertical Integration of Nanotechnology Education. ACS Symposium Series, 2010, , 49-64.	0.5	2
96	Probing the valence band structure of wurtzite InP nanowires by photoluminescence excitation spectroscopy. , 2011, , .		2
97	Recent Advances in Semiconductor Nanowire Heterostructures. ECS Transactions, 2014, 64, 1-5.	0.3	2
98	Using Exciton Dynamics to Probe the Internal Structure of CdSe/ZnSe Self-Assembled Quantum Dots. Physica Status Solidi (B): Basic Research, 2000, 221, 55-58.	0.7	1
99	Excited State Dynamics in In _{0.5} Al _{0.04} Ga _{0.46} As/Al _{0.08} Ga _{0.92} As Self-Assembled Quantum Dots. Physica Status Solidi (B): Basic Research, 2001, 224, 447-451.	0.7	1
100	Optically controlled magnetization of zero-dimensional magnetic polarons in CdMnTe self-assembled quantum dots. Physica Status Solidi (B): Basic Research, 2004, 241, 656-659.	0.7	1
101	Exciton Spin Relaxation In Symmetric Self-Assembled Quantum Dots. AIP Conference Proceedings, 2005, , .	0.3	1
102	Spatially-resolved Photoluminescence Imaging of CdS and GaAs/AlGaAs Nanowires. AIP Conference Proceedings, 2007, , .	0.3	1
103	III-V COMPOUND SEMICONDUCTOR NANOWIRES FOR OPTOELECTRONIC DEVICE APPLICATIONS. International Journal of High Speed Electronics and Systems, 2011, 20, 131-141.	0.3	1
104	Growth and characterization of compound semiconductor nanowires on Si. , 2011, , .		1
105	Transient Rayleigh scattering from single semiconductor nanowires. AIP Conference Proceedings, 2013, , .	0.3	1
106	Measurement of doping concentration, internal quantum efficiency and non-radiative lifetime of InP nanowires. , 2014, , .		1
107	Band structure and polarization effects in photothermoelectric spectroscopy of a Bi ₂ Se ₃ device. Applied Physics Letters, 2022, 120, .	1.5	1
108	Mott ionization of excitons in n-type Zn _{1-x} MnxSe epilayers. Applied Physics Letters, 1995, 67, 3150-3152.	1.5	0

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109	Resonant nano-photoluminescence of single CdSe/ZnSe self-assembled quantum dots. , 0, , .		0
110	Optical Properties of Semimagnetic Quantum Dots. Materials Research Society Symposia Proceedings, 2002, 737, 242.	0.1	0
111	Resonant photoluminescence and excitation spectroscopy of CdSe/ZnSe and CdTe/ZnTe self-assembled quantum dots. Materials Research Society Symposia Proceedings, 2002, 737, 248.	0.1	0
112	Publisher's Note: Exciton spin relaxation in quasiresonantly excited CdTe/ZnTe self-assembled quantum dots [Phys. Rev. B70, 245312 (2004)]. Physical Review B, 2004, 70, .	1.1	0
113	Spatial Diffusion Of Carriers In A Quantum Dot System Grown By Shadow Mask Controlled Epitaxy. AIP Conference Proceedings, 2005, , .	0.3	0
114	Morphology Of CdTe/ZnTe Self-Assembled Quantum Dots Studied By Excitation Spectroscopy. AIP Conference Proceedings, 2005, , .	0.3	0
115	Optically Induced Zero-Field Magnetization Of CdMnTe Quantum Dots. AIP Conference Proceedings, 2005, , .	0.3	0
116	Photoluminescence Imaging Of CdTe/ZnTe Self-Assembled Quantum Dots. AIP Conference Proceedings, 2005, , .	0.3	0
117	Optical properties of single InP and GaAs nanowire heterostructures. , 2008, , .		0
118	Growth, Structural and Optical Properties of High Quality GaAs Nanowires for Optoelectronics. , 2008, , .		0
119	Epitaxy of III-V semiconductor nanowires towards optoelectronic devices. , 2009, , .		0
120	Effect of the crystal structure on the optical properties of InP nanowires. , 2009, , .		0
121	Improvement of morphology, structure, and optical properties of GaAs nanowires grown on Si substrates. , 2010, , .		0
122	Structural and optical characterization of vertical GaAs/GaP core-shell nanowires grown on Si substrates. , 2010, , .		0
123	Direct Measure of Strain and Electronic Structure in GaAs ⁺ GaP Core-Shell Nanowires. , 2011, , .		0
124	Compound semiconductor nanowires for optoelectronic device applications. , 2011, , .		0
125	Nonlinear Two-Photon Photocurrent Spectroscopy of CdS Nanosheets. Materials Research Society Symposia Proceedings, 2012, 1439, 77-81.	0.1	0
126	Photomodulated Rayleigh Scattering from Single Semiconductor Nanowires. Materials Research Society Symposia Proceedings, 2012, 1408, 11.	0.1	0

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127	Determining wurtzite band structure using optical spectroscopies on single InP nanowires. , 2013, , .		0
128	Optical spectroscopy of quantum confined states in GaAs/AlGaAs quantum well tubes. , 2013, , .		0
129	III-V COMPOUND SEMICONDUCTOR NANOWIRES FOR OPTOELECTRONIC DEVICE APPLICATIONS. , 2013, , .		0
130	Tuning Band Energies in a Combined Axial and Radial GaAs/GaP Heterostructure. Materials Research Society Symposia Proceedings, 2014, 1659, 139-142.	0.1	0
131	Localization of Excitons in Thin Core-Multi-Shell Quantum Well Tubes. Materials Research Society Symposia Proceedings, 2014, 1659, 135-138.	0.1	0
132	Photocurrent spectroscopy of single GaAs/AlGaAs core-multishell nanowire devices. , 2015, , .		0
133	Optical Properties of Semiconductor Nanowires. Semiconductors and Semimetals, 2016, 94, 17-74.	0.4	0
134	Spatial diffusion of carriers in a quantum dot system grown by shadow mask controlled epitaxy. , 2004, , .		0
135	Zero-field magnetization of a single CdMnTe quantum dot studied by spatially-resolved photoluminescence. , 2004, , .		0
136	Optical Properties of Single CdS Nanosheets. Journal of the Korean Physical Society, 2008, 53, 3073-3076.	0.3	0
137	Measuring the Energy Landscape in Single Semiconductor Nanowires. Acta Physica Polonica A, 2012, 122, 316-320.	0.2	0