David J Lockwood

List of Publications by Year
in descending order

132 papers	4,154 citations	218677 26 h-index	118850 62 g-index
135 all docs	135 docs citations	135 times ranked	4596 citing authors

#	Article	IF	Citations
1	Nickel hydroxides and related materials: a review of their structures, synthesis and properties. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2015, 471, 20140792.	2.1	610
2	Quantum Confined Luminescence inSi/SiO2Superlattices. Physical Review Letters, 1996, 76, 539-541.	7.8	430
3	Raman and Infrared Spectroscopy of Î± and Î² Phases of Thin Nickel Hydroxide Films Electrochemically Formed on Nickel. Journal of Physical Chemistry A, 2012, 116, 6771-6784.	2.5	293
4	Nanocrystalline-silicon superlattice produced by controlled recrystallization. Applied Physics Letters, 1998, 72, 43-45.	3.3	243
5	Quantum confinement in Si and Ge nanostructures: Theory and experiment. Applied Physics Reviews, 2014, 1, 011302.	11.3	167
6	Quantum confinement in Si and Ge nanostructures. Journal of Applied Physics, 2012, 111, .	2.5	158
7	Folded acoustic phonons in Si/GexSi1â^'xstrained-layer superlattices. Physical Review B, 1987, 35, 2243-2251.	3.2	132
8	Spin Waves in Nickel Nanorings of Large Aspect Ratio. Physical Review Letters, 2005, 94, 137208.	7.8	126
9	Optical phonon frequencies and damping in AlAs, GaP, GaAs, InP, InAs and InSb studied by oblique incidence infrared spectroscopy. Solid State Communications, 2005, 136, 404-409.	1.9	115
10	Ge dots and nanostructures grown epitaxially on Si. Journal of Physics Condensed Matter, 2006, 18, R139-R174.	1.8	104
11	Applications of in Situ Raman Spectroscopy for Identifying Nickel Hydroxide Materials and Surface Layers during Chemical Aging. ACS Applied Materials & Interfaces, 2014, 6, 3141-3149.	8.0	90
12	Strain in coherent-wave SiGe/Si superlattices. Solid State Communications, 2000, 114, 505-510.	1.9	85
13	Magnon Squeezing in an Antiferromagnet: Reducing the Spin Noise below the Standard Quantum Limit. Physical Review Letters, 2004, 93, 107203.	7.8	85
14	Silicon-Germanium Nanostructures for Light Emitters and On-Chip Optical Interconnects. Proceedings of the IEEE, 2009, 97, 1284-1303.	21.3	78
15	Ion Pair Formation in NaNO3/D2O Solutions: Raman and Infrared Spectra, Partial Molal Volumes, Conductance, and Viscosity. Canadian Journal of Chemistry, 1972, 50, 2951-2962.	1.1	55
16	Magnon squeezing in antiferromagneticMnF2andFeF2. Physical Review B, 2006, 73, .	3.2	55
17	Coexistence of fast and slow luminescence in three-dimensionalSiâˆ•Si1â^'xGexnanostructures. Physical Review B, 2005, 72, .	3.2	50
18	Formation of colloidal alloy semiconductor CdTeSe magic-size clusters at room temperature. Nature Communications, 2019, 10, 1674.	12.8	49

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19	Photoluminescence and Raman scattering in three-dimensional Si/Si1â^'xGex nanostructures. Applied Physics Letters, 2004, 84, 1293-1295.	3.3	45
20	Optical phonons inAlxGa1â^'xAs: Raman spectroscopy. Physical Review B, 2004, 70, .	3.2	40
21	Light emission in silicon nanostructures. Journal of Materials Science: Materials in Electronics, 2009, 20, 235-244.	2.2	38
22	Disorder and the optical properties of amorphous silicon grown by molecular beam epitaxy. Solid State Communications, 2001, 120, 429-434.	1.9	35
23	Stabilized porous silicon optical superlattices with controlled surface passivation. Applied Physics Letters, 2008, 93, 061113.	3.3	34
24	Lattice dynamics of the ordered vacancy compound HgIn2Square Operator Te4. Journal of Physics C: Solid State Physics, 1976, 9, 2997-3011.	1.5	31
25	Optical dispersion relationships in amorphous silicon grown by molecular beam epitaxy. Journal of Non-Crystalline Solids, 2001, 290, 57-63.	3.1	31
26	Polarized Raman scattering and localized embedded strain in self-organized Si/Ge nanostructures. Applied Physics Letters, 2003, 83, 5035-5037.	3.3	27
27	Depth-dependent disordering ina-Si produced by self-ion-implantation. Physical Review B, 1994, 50, 17080-17084.	3.2	26
28	Spin waves in permalloy nanowires: The importance of easy-plane anisotropy. Physical Review B, 2006, 73, .	3.2	26
29	Resonant tunneling in partially disordered silicon nanostructures. Europhysics Letters, 2001, 55, 552-558.	2.0	25
30	Raman and transmission electron microscopy study of disordered silicon grown by molecular beam epitaxy. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2004, 22, 943.	2.1	25
31	Bovine serum albumin adsorption on passivated porous silicon layers. Canadian Journal of Chemistry, 2004, 82, 1545-1553.	1.1	25
32	Raman spectrum of AgGaS2. Journal of Physics C: Solid State Physics, 1975, 8, 3241-3250.	1.5	24
33	Spin relaxation in quantum dots with random spin-orbit coupling. Physical Review B, 2005, 72, .	3.2	24
34	Raman scattering from the 1D antiferromagnets RbCoCl3and RbNiCl3. Journal of Physics C: Solid State Physics, 1983, 16, 6451-6474.	1.5	23
35	Role of quantum confinement in luminescence efficiency of group IV nanostructures. Journal of Applied Physics, 2014, 115, .	2.5	22
36	Optical absorption in an amorphous silicon superlattice grown by molecular beam epitaxy. Solid State Communications, 2002, 122, 271-275.	1.9	21

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37	Electronic Raman scattering in quantum dots revisited. Solid State Communications, 2005, 135, 554-562.	1.9	20
38	Probing the composition of Ge dots and Siâˆ•Si1âˆ’xGex island superlattices. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2006, 24, 663-667.	2.1	20
39	Raman scattering in Si/SiGe nanostructures: Revealing chemical composition, strain, intermixing, and heat dissipation. Journal of Applied Physics, 2014, 116, .	2.5	20
40	Ultrafast carrier dynamics and the role of grain boundaries in polycrystalline silicon thin films grown by molecular beam epitaxy. Semiconductor Science and Technology, 2016, 31, 105017.	2.0	20
41	Spin-phonon interaction in transition-metal difluoride antiferromagnets: Theory and experiment. Low Temperature Physics, 2019, 45, 78-91.	0.6	19
42	Influence of growth temperature on order within silicon films grown by ultrahigh-vacuum evaporation on silica. Applied Physics Letters, 2006, 88, 121920.	3.3	18
43	Physical properties of lanthanum monosulfide thin films grown on (100) silicon substrates. Journal of Applied Physics, 2006, 99, 123502.	2.5	18
44	Anomalous phonon intensities in the Raman spectrum of disordered CsMg1âˆ’xCoxCl3. Solid State Communications, 1981, 39, 395-400.	1.9	17
45	Patchwork field emission properties of lanthanum monosulfide thin films. Journal of Vacuum Science & Technology B, 2006, 24, 2412.	1.3	17
46	An amorphous-to-crystalline phase transition within thin silicon films grown by ultra-high-vacuum evaporation and its impact on the optical response. Journal of Applied Physics, 2016, 119, .	2.5	17
47	Low-temperature Si growth on Si (001): Impurity incorporation and limiting thickness for epitaxy. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2004, 22, 1479.	1.6	16
48	Advances in the growth and characterization of Ge quantum dots and islands. Journal of Materials Research, 2005, 20, 3278-3293.	2.6	16
49	Phonon-assisted optical absorption in germanium. Physical Review B, 2018, 98, .	3.2	16
50	Influence of interchain coupling on the one-dimensional magnon Raman spectrum of CsCoBr3. Solid State Communications, 1980, 36, 593-597.	1.9	15
51	Pulsed laser deposition of lanthanum monosulfide thin films on silicon substrates. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2005, 23, 318.	1.6	15
52	Structural and optical properties of three-dimensional Si1âˆ’xGex/Si nanostructures. Semiconductor Science and Technology, 2008, 23, 064003.	2.0	15
53	Carrier tunneling in nanocrystalline siliconâ€“silicon dioxide superlattices: A weak coupling model. Physical Review B, 2004, 69, .	3.2	14
54	Peculiarities of the structural phase transitions in Na2SO4(V): a Raman scattering study. Journal of Physics Condensed Matter, 2005, 17, 6095-6108.	1.8	14

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55	In situmonitoring of protein adsorption on functionalized porous Si surfaces. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2006, 24, 747-751.	2.1	14
56	Resonant indirect optical absorption in germanium. Physical Review B, 2017, 96, .	3.2	14
57	Photoluminescence of Ge nanocrystals self-assembled on SiO2. Superlattices and Microstructures, 2008, 44, 305-314.	3.1	13
58	Magnetic-field dependence of spin waves in ordered permalloy nanowire arrays in two dimensions. Journal of Applied Physics, 2005, 98, 046103.	2.5	12
59	Polarons in electron-populated quantum dots revealed by resonant Raman scattering. Physical Review B, 2006, 73, .	3.2	12
60	Photoluminescence and Raman scattering in axial Si/Ge nanowire heterojunctions. Applied Physics Letters, 2009, 95, 133120.	3.3	12
61	Photoluminescence Efficiency of Self-Assembled Ge Nanocrystals. Journal of the Electrochemical Society, 2009, 156, H913.	2.9	11
62	The nonlinear Rashba effect in Hg0.77Cd0.23Te inversion layers probed by weak antilocalization analysis. Journal of Applied Physics, 2013, 113, .	2.5	11
63	(Invited) Photoluminescence Efficiency of Germanium Dots Self-Assembled on Oxides. ECS Transactions, 2013, 53, 185-206.	0.5	11
64	High intensity and oscillatory electroluminescence observed during porous etching of GaP in HBr and HF electrolytes. Chemical Physics Letters, 2005, 414, 47-50.	2.6	10
65	Characterization and field emission properties of lanthanum monosulfide nanoprotrusion arrays obtained by pulsed laser deposition on self-assembled nanoporous alumina templates. Journal of	1.3	10
66	Crossing and anticrossing of spin-split Landau levels in an<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mi mathvariant="normal">Al</mml:mi><mml:mi>x</mml:mi></mml:msub><mml:msub><mml:mi mathvariant="normal">Ga</mml:mi><mml:mrow><mml:mn>1</mml:mn><mml:mo>â^’</mml:mo><mml:mi>x</mml:mi></mml:mrow></mml:msub><mml:mi mathvariant="normal">As</mml:mi><mml:mo>â•</mml:mo><mml:mi mathvariant="normal">Ga</mml:mi><mml:mi mathvariant="normal">As</mml:mi></mml:mrow></mml:math>	3.2	10
67	<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mi>CoF</mml:mi><mml:mn>2</mml:mn></mml:msub></mml:mrow></mml:math> and <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mi>NiF</mml:mi><mml:mn>2</mml:mn></mml:msub></mml:mrow></mml:math>: Experiment and theory. Physical Review B, 2007, 76,	3.2	10
68	Fast light-emitting silicon-germanium nanostructures for optical interconnects. Optical and Quantum Electronics, 2012, 44, 505-512.	3.3	10
69	Structural and optical properties of axial silicon-germanium nanowire heterojunctions. Journal of Applied Physics, 2015, 118, .	2.5	10
70	Influence of interface potential on the effective mass in Ge nanostructures. Journal of Applied Physics, 2015, 117, .	2.5	10
71	Light scattering from electronic and magnetic excitations in transition-metal halides. Topics in Applied Physics, 1982, , 59-92.	0.8	9
72	Siliconâ€“germanium nanostructures for on-chip optical interconnects. Applied Physics A: Materials Science and Processing, 2009, 95, 1015-1027.	2.3	9

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73	Optical phonons via oblique-incidence infrared spectroscopy and their deformation potentials in In1â^'xGaxAs. Journal of Applied Physics, 2007, 101, 113524.	2.5	8
74	Predicting Size Distributions of Ge Nanodots from Their Photoluminescence. Journal of the Electrochemical Society, 2010, 157, H1160.	2.9	8
75	Review Article: Rare-earth monosulfides as durable and efficient cold cathodes. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2011, 29, 06F602.	1.2	8
76	Excitation wavelength dependent photoluminescence in structurally non-uniform Si/SiGe-island heteroepitxial multilayers. Journal of Applied Physics, 2012, 111, 114313.	2.5	8
77	Magnetooptic coupling coefficients for one- and two-magnon Raman scattering in rutile-structure antiferromagnets FeF2, MnF2, CoF2, and NiF2. Low Temperature Physics, 2012, 38, 549-558.	0.6	8
78	Si/SiGe Heterointerfaces in One-, Two-, and Three-Dimensional Nanostructures: Their Impact on SiGe Light Emission. Frontiers in Materials, 2016, 3, .	2.4	8
79	Raman scattering from magnons and excitons in the 3â€Ð ordered phases of CsCoBr3. Journal of Applied Physics, 1982, 53, 8169-8171.	2.5	7
80	Phonons in strained In1â^'xGaxAsâ^•InP epilayers characterized by infrared reflectance. Applied Physics Letters, 2005, 86, 221904.	3.3	7
81	Organic monolayers detected by single reflection attenuated total reflection infrared spectroscopy. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2006, 24, 668-672.	2.1	7
82	Compositional Redistribution in Coherent ${m Si}_{1hbox{-}x}{m Ge}_{ x}$ Islands on Si(100). IEEE Nanotechnology Magazine, 2007, 6, 245-249.	2.0	7
83	Photoluminescence Efficiency and Size Distribution of Self Assembled Ge Dots on Porous TiO₂. Journal of Nanoscience and Nanotechnology, 2011, 11, 9190-9195.	0.9	7
84	Fast and intense photoluminescence in a SiGe nano-layer embedded in multilayers of Si/SiGe clusters. Applied Physics Letters, 2013, 103, 033103.	3.3	7
85	Selection and jump rules in electronic Raman scattering fromGaAsâ^•AlxGa1â^'xAsartificial atoms. Physical Review B, 2005, 71, .	3.2	5
86	Optical phonons in InP1â^'xAsx revisited. Journal of Applied Physics, 2007, 102, .	2.5	5
87	Exact diagonalization studies of inelastic light scattering in self-assembled quantum dots. Physical Review B, 2009, 79, .	3.2	5
88	Selective growth and ordering of SiGe nanowires for band gap engineering. Nanotechnology, 2014, 25, 335303.	2.6	5
89	Light Emission in Silicon Nanostructures. , 1998, , 185-209.		5
90	Optical Properties of Composition-Controlled Three-Dimensional Si/Si $_{1 - x}$Ge$_{x}$ Nanostructures. IEEE Journal of Selected Topics in Quantum Electronics, 2006, 12, 1579-1584.	2.9	4

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91	Infrared spectroscopy of self-assembled monolayer films on silicon. Surface Science, 2007, 601, 2566-2570.	1.9	4
92	Field emission properties of metallic nanostructures self-assembled on nanoporous alumina and silicon templates. Journal of Vacuum Science & Technology B, 2008, 26, 885-890.	1.3	4
93	Three-Dimensional Silicon-Germanium Nanostructures for CMOS Compatible Light Emitters and Optical Interconnects. Advances in Optical Technologies, 2008, 2008, 1-16.	0.8	4
94	Strain-induced lateral self-organization in Si/SiO2 nanostructures. Applied Physics Letters, 2010, 96, 013105.	3.3	4
95	Photoluminescence fatigue in three-dimensional silicon/silicon-germanium nanostructures. Journal of Applied Physics, 2012, 111, 064318.	2.5	4
96	Bright photoluminescence from ordered arrays of SiGe nanowires grown on Si(111). Beilstein Journal of Nanotechnology, 2014, 5, 2498-2504.	2.8	4
97	Fast Light-Emitting Silicon-Germanium Nanostructures. IEEE Journal of Selected Topics in Quantum Electronics, 2014, 20, 225-231.	2.9	4
98	Strained HgTe plates grown on SrTiO3 investigated by micro-Raman mapping. Journal of Applied Physics, 2016, 120, 115304.	2.5	4
99	Editors' Choiceâ€"Optical Emission from Germanium Nanocrystals. ECS Journal of Solid State Science and Technology, 2018, 7, R195-R205.	1.8	4
100	Photoluminescence in PbS nanocrystal thin films: Nanocrystal density, film morphology and energy transfer. Journal of Applied Physics, 2020, 128, 134301.	2.5	4
101	One- and two-magnon Raman scattering in the canted antiferromagnet NiF2. Journal of Magnetism and Magnetic Materials, 2007, 310, 1593-1595.	2.3	3
102	Field emission from lanthanum monosulfide thin films grown on the (100) magnesium oxide substrates. Journal of Vacuum Science & Technology B, 2008, 26, 891-897.	1.3	3
103	Self-assembled silicon-germanium nanostructures for CMOS compatible light emitters. Physica Status Solidi C: Current Topics in Solid State Physics, 2011, 8, 2870-2874.	0.8	3
104	Disorder and defect formation mechanisms in molecular-beam-epitaxy grown silicon epilayers. Thin Solid Films, 2013, 527, 38-44.	1.8	3
105	The effective g-factor in In0.53Ga0.47As/In0.52Al0.48As quantum well investigated by magnetotransport measurement. Journal of Applied Physics, 2013, 113, 033704.	2.5	3
106	Oblique incidence infrared reflectance spectroscopy of phonons in cubic MgO, MnO, and NiO. Infrared Physics and Technology, 2020, 109, 103405.	2.9	3
107	Pore formation on p-type InP(100). Physica Status Solidi (A) Applications and Materials Science, 2005, 202, 1446-1450.	1.8	2
108	Field Emission from Self-Assembled Arrays of Lanthanum Monosulfide Nanoprotrusions. Journal of Nanomaterials, 2008, 2008, 1-4.	2.7	2

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109	Photoluminescence and Raman spectral study of C incorporation in strained Si1â^'xâ^'yGexCy epilayers on Si(100). Journal of Applied Physics, 2008, 103, 063513.	2.5	2
110	Quantum confinement in Si and Ge nanostructures: effect of crystallinity. , 2013, , .		2
111	Carrier recombination in tailored multilayer Si/Si1â^'xGex nanostructures. Physica B: Condensed Matter, 2014, 453, 29-33.	2.7	2
112	Influence of the growth temperature on the spectral dependence of the optical functions associated with thin silicon films grown by ultra-high-vacuum evaporation on optical quality fused quartz substrates. Journal of Materials Science: Materials in Electronics, 2020, 31, 13186-13198.	2.2	2
113	(Invited) Germanium Nanocrystal Luminescence: Spectral and Spatial Variations. ECS Transactions, 2020, 97, 3-13.	0.5	2
114	Circular dichroism and Raman optical activity in antiferromagnetic transition-metal fluorides. Low Temperature Physics, 2005, 31, 786-793.	0.6	1
115	Electronic Raman scattering from holes in InAs/GaAs self-assembled quantum dots. Electronics Letters, 2007, 43, 1162.	1.0	1
116	Photoluminescence of strained Si1â^'xâ^'yGexCy epilayers on Si(100). Thin Solid Films, 2008, 517, 128-131.	1.8	1
117	Field emission characteristics of a lanthanum monosulfide cold cathode array fabricated using microelectromechanical systems technology. Journal of Vacuum Science & Technology B, 2008, 26, 764-769.	1.3	1
118	Direct Observation of Polarons in Electron Populated Quantum Dots by Resonant Raman Scattering. Journal of Nanoscience and Nanotechnology, 2008, 8, 789-794.	0.9	1
119	Grain size, texture, and crystallinity in lanthanum monosulfide thin films grown by pulsed laser deposition. Thin Solid Films, 2012, 524, 166-172.	1.8	1
120	Inelastic light scattering spectroscopy in Si/SiGe nanostructures: Strain, chemical composition and thermal properties. Solid State Communications, 2016, 245, 25-30.	1.9	1
121	Crystallinity, order, the thin-film silicon continuum, and the spectral dependence of the refractive index in thin silicon films grown through ultra-high-vacuum evaporation for a range of growth temperatures. Journal of Non-Crystalline Solids, 2021, 559, 120657.	3.1	1
122	Zeeman-ladder analysis of the Raman magnon energies in the quasi-one-dimensional antiferromagnet RbCoCl3. Physical Review B, 2022, 105, .	3.2	1
123	Qubit addressing using hyperfine-interaction control by an electric field in a magnetic crystal. Physical Review A, 2010, 82, .	2.5	0
124	One- and two-magnon and exciton Raman scattering in antiferromagnetic CoF2: Experiment and theory. Journal of the Korean Physical Society, 2013, 63, 817-820.	0.7	0
125	Dependence of spin dynamics on in-plane magnetic field in AlGaN/GaN quantum wells. Europhysics Letters, 2015, 112, 67003.	2.0	0
126	An amorphous-to-crystalline phase transition within thin silicon films grown through ultra-high-vacuum evaporation on fused quartz substrates. MRS Advances, 2016, 1, 3257-3262.	0.9	0

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127	Direct-Gap Photoluminescence from a Si-Ge Multilayer Super Unit Cell Grown on Si_{0.4}Ge_{0.6}. ECS Journal of Solid State Science and Technology, 2018, 7, R115-R119.	1.8	0
128	Axial silicon-germanium nanowire heterojunctions: Structural properties and carrier transport. Journal of Applied Physics, 2019, 125, 205107.	2.5	0
129	Thin-film optical function acquisition from experimental measurements of the reflectance and transmittance spectra: a case study. Journal of Materials Science: Materials in Electronics, 2021, 32, 17033-17060.	2.2	0
130	Germanium Nanocrystal Properties from Photoluminescence. ECS Journal of Solid State Science and Technology, 2021, 10, 085003.	1.8	0
131	Light Emission from Germanium Nanostructures. Topics in Applied Physics, 2021, , 197-235.	0.8	0
132	Zero-wave-vector optical phonons in AgGaS2 reexamined. Optical Materials, 2022, 128, 112325.	3.6	0