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	Zeeman-ladder analysis of the Raman magnon energies in the quasi-one-dimensional antiferromagnet RbCoCl3. Physical Review B, 2022, 105, .	3.2	1
2	Zero-wave-vector optical phonons in AgGaS2 reexamined. Optical Materials, 2022, 128, 112325.	3.6	0
3	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
4	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
5	Germanium Nanocrystal Properties from Photoluminescence. ECS Journal of Solid State Science and Technology, 2021, 10, 085003.	1.8	0
6	Light Emission from Germanium Nanostructures. Topics in Applied Physics, 2021, , 197-235.	0.8	0
7	Photoluminescence in PbS nanocrystal thin films: Nanocrystal density, film morphology and energy transfer. Journal of Applied Physics, 2020, 128, 134301.	2.5	4
8	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
9	(Invited) Germanium Nanocrystal Luminescence: Spectral and Spatial Variations. ECS Transactions, 2020, 97, 3-13.	0.5	2
10	Oblique incidence infrared reflectance spectroscopy of phonons in cubic MgO, MnO, and NiO. Infrared Physics and Technology, 2020, 109, 103405.	2.9	3
11	Axial silicon-germanium nanowire heterojunctions: Structural properties and carrier transport. Journal of Applied Physics, 2019, 125, 205107.	2.5	0
12	Formation of colloidal alloy semiconductor CdTeSe magic-size clusters at room temperature. Nature Communications, 2019, 10, 1674.	12.8	49
13	Spin-phonon interaction in transition-metal difluoride antiferromagnets: Theory and experiment. Low Temperature Physics, 2019, 45, 78-91.	0.6	19
14	Editors' Choiceâ€"Optical Emission from Germanium Nanocrystals. ECS Journal of Solid State Science and Technology, 2018, 7, R195-R205.	1.8	4
15	Phonon-assisted optical absorption in germanium. Physical Review B, 2018, 98, .	3.2	16
16	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
17	Resonant indirect optical absorption in germanium. Physical Review B, 2017, 96, .	3.2	14
18	Si/SiGe Heterointerfaces in One-, Two-, and Three-Dimensional Nanostructures: Their Impact on SiGe Light Emission. Frontiers in Materials, 2016, 3, .	2.4	8

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19	Inelastic light scattering spectroscopy in Si/SiGe nanostructures: Strain, chemical composition and thermal properties. Solid State Communications, 2016, 245, 25-30.	1.9	1
20	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
21	Strained HgTe plates grown on SrTiO3 investigated by micro-Raman mapping. Journal of Applied Physics, 2016, 120, 115304.	2.5	4
22	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
23	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
24	Structural and optical properties of axial silicon-germanium nanowire heterojunctions. Journal of Applied Physics, 2015, 118, .	2.5	10
25	Dependence of spin dynamics on in-plane magnetic field in AlGaN/GaN quantum wells. Europhysics Letters, 2015, 112, 67003.	2.0	0
26	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
27	Influence of interface potential on the effective mass in Ge nanostructures. Journal of Applied Physics, 2015, 117, .	2.5	10
28	Bright photoluminescence from ordered arrays of SiGe nanowires grown on Si(111). Beilstein Journal of Nanotechnology, 2014, 5, 2498-2504.	2.8	4
29	Raman scattering in Si/SiGe nanostructures: Revealing chemical composition, strain, intermixing, and heat dissipation. Journal of Applied Physics, 2014, 116, .	2.5	20
30	Carrier recombination in tailored multilayer Si/Si1â^'xGex nanostructures. Physica B: Condensed Matter, 2014, 453, 29-33.	2.7	2
31	Role of quantum confinement in luminescence efficiency of group IV nanostructures. Journal of Applied Physics, 2014, 115, .	2.5	22
32	Fast Light-Emitting Silicon-Germanium Nanostructures. IEEE Journal of Selected Topics in Quantum Electronics, 2014, 20, 225-231.	2.9	4
33	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
34	Quantum confinement in Si and Ge nanostructures: Theory and experiment. Applied Physics Reviews, 2014, 1, 011302.	11.3	167
35	Selective growth and ordering of SiGe nanowires for band gap engineering. Nanotechnology, 2014, 25, 335303.	2.6	5
36	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

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37	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
38	The nonlinear Rashba effect in Hg0.77Cd0.23Te inversion layers probed by weak antilocalization analysis. Journal of Applied Physics, 2013, 113, .	2.5	11
39	Disorder and defect formation mechanisms in molecular-beam-epitaxy grown silicon epilayers. Thin Solid Films, 2013, 527, 38-44.	1.8	3
40	(Invited) Photoluminescence Efficiency of Germanium Dots Self-Assembled on Oxides. ECS Transactions, 2013, 53, 185-206.	0.5	11
41	Quantum confinement in Si and Ge nanostructures: effect of crystallinity. , 2013, , .		2
42	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
43	Photoluminescence fatigue in three-dimensional silicon/silicon-germanium nanostructures. Journal of Applied Physics, 2012, 111, 064318.	2.5	4
44	Excitation wavelength dependent photoluminescence in structurally non-uniform Si/SiGe-island heteroepitxial multilayers. Journal of Applied Physics, 2012, 111, 114313.	2.5	8
45	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
46	Quantum confinement in Si and Ge nanostructures. Journal of Applied Physics, 2012, 111, .	2.5	158
47	Fast light-emitting silicon-germanium nanostructures for optical interconnects. Optical and Quantum Electronics, 2012, 44, 505-512.	3.3	10
48	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
49	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
50	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
51	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
52	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
53	Qubit addressing using hyperfine-interaction control by an electric field in a magnetic crystal. Physical Review A, 2010, 82, .	2.5	0
54	Predicting Size Distributions of Ge Nanodots from Their Photoluminescence. Journal of the Electrochemical Society, 2010, 157, H1160.	2.9	8

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55	Strain-induced lateral self-organization in Si/SiO2 nanostructures. Applied Physics Letters, 2010, 96, 013105.	3.3	4
56	Photoluminescence and Raman scattering in axial Si/Ge nanowire heterojunctions. Applied Physics Letters, 2009, 95, 133120.	3.3	12
57	Photoluminescence Efficiency of Self-Assembled Ge Nanocrystals. Journal of the Electrochemical Society, 2009, 156, H913.	2.9	11
58	Silicon-Germanium Nanostructures for Light Emitters and On-Chip Optical Interconnects. Proceedings of the IEEE, 2009, 97, 1284-1303.	21.3	78
59	Light emission in silicon nanostructures. Journal of Materials Science: Materials in Electronics, 2009, 20, 235-244.	2.2	38
60	Siliconâ€“germanium nanostructures for on-chip optical interconnects. Applied Physics A: Materials Science and Processing, 2009, 95, 1015-1027.	2.3	9
61	Exact diagonalization studies of inelastic light scattering in self-assembled quantum dots. Physical Review B, 2009, 79, .	3.2	5
62	Photoluminescence of Ge nanocrystals self-assembled on SiO2. Superlattices and Microstructures, 2008, 44, 305-314.	3.1	13
63	Photoluminescence of strained Si1âˆ’xâˆ’yGexCy epilayers on Si(100). Thin Solid Films, 2008, 517, 128-131.	1.8	1
64	Structural and optical properties of three-dimensional Si1âˆ’xGex/Si nanostructures. Semiconductor Science and Technology, 2008, 23, 064003.	2.0	15
65	Field Emission from Self-Assembled Arrays of Lanthanum Monosulfide Nanoprotrusions. Journal of Nanomaterials, 2008, 2008, 1-4.	2.7	2
66	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
67	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
68	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
69	Stabilized porous silicon optical superlattices with controlled surface passivation. Applied Physics Letters, 2008, 93, 061113.	3.3	34
70	Photoluminescence and Raman spectral study of C incorporation in strained Si1âˆ’xâˆ’yGexCy epilayers on Si(100). Journal of Applied Physics, 2008, 103, 063513.	2.5	2
71	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
72	Three-Dimensional Silicon-Germanium Nanostructures for CMOS Compatible Light Emitters and Optical Interconnects. Advances in Optical Technologies, 2008, 2008, 1-16.	0.8	4

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73	Electronic Raman scattering from holes in InAs/GaAs self-assembled quantum dots. Electronics Letters, 2007, 43, 1162.	1.0	1
74	Characterization and field emission properties of lanthanum monosulfide nanoprotrusion arrays obtained by pulsed laser deposition on self-assembled nanoporous alumina templates. Journal of Vacuum Science & Technology B, 2007, 25, 594.	1.3	10
75	Optical phonons via oblique-incidence infrared spectroscopy and their deformation potentials in In1âˆ'xGaxAs. Journal of Applied Physics, 2007, 101, 113524.	2.5	8
76	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>âˆ'</mml:mo><mml:mi>x</mml:mi></mml:mrow><mml:mi mathvariant="normal">As</mml:mi><mml:mo>â€¢</mml:mo><mml:mi mathvariant="normal">Ga</mml:mi><mml:msub><mml:mi mathvariant="normal">As</mml:mi></mml:msub></mml:mrow></mml:math>/GaAs quantum well.	3.2	10
77	Experiment and theory. Physical Review B, 2007, 76, .	3.2	10
78	Optical phonons in InP1âˆ'xAsx revisited. Journal of Applied Physics, 2007, 102, .	2.5	5
79	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
80	One- and two-magnon Raman scattering in the canted antiferromagnet NiF2. Journal of Magnetism and Magnetic Materials, 2007, 310, 1593-1595.	2.3	3
81	Infrared spectroscopy of self-assembled monolayer films on silicon. Surface Science, 2007, 601, 2566-2570.	1.9	4
82	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
83	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
84	Physical properties of lanthanum monosulfide thin films grown on (100) silicon substrates. Journal of Applied Physics, 2006, 99, 123502.	2.5	18
85	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
86	Ge dots and nanostructures grown epitaxially on Si. Journal of Physics Condensed Matter, 2006, 18, R139-R174.	1.8	104
87	Patchwork field emission properties of lanthanum monosulfide thin films. Journal of Vacuum Science & Technology B, 2006, 24, 2412.	1.3	17
88	Probing the composition of Ge dots and Siâ€•Si1âˆ'xGex island superlattices. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2006, 24, 663-667.	2.1	20
89	Polarons in electron-populated quantum dots revealed by resonant Raman scattering. Physical Review B, 2006, 73, .	3.2	12
90	Magnon squeezing in antiferromagneticMnF2andFeF2. Physical Review B, 2006, 73, .	3.2	55

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91	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
92	Spin waves in permalloy nanowires: The importance of easy-plane anisotropy. Physical Review B, 2006, 73, .	3.2	26
93	Circular dichroism and Raman optical activity in antiferromagnetic transition-metal fluorides. Low Temperature Physics, 2005, 31, 786-793.	0.6	1
94	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
95	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
96	Selection and jump rules in electronic Raman scattering fromGaAsâˆ•AlxGa1âˆ’xAsartificial atoms. Physical Review B, 2005, 71, .	3.2	5
97	Electronic Raman scattering in quantum dots revisited. Solid State Communications, 2005, 135, 554-562.	1.9	20
98	Pore formation on p-type InP(100). Physica Status Solidi (A) Applications and Materials Science, 2005, 202, 1446-1450.	1.8	2
99	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
100	Magnetic-field dependence of spin waves in ordered permalloy nanowire arrays in two dimensions. Journal of Applied Physics, 2005, 98, 046103.	2.5	12
101	Coexistence of fast and slow luminescence in three-dimensionalSiâˆ•Si1âˆ’xGexnanostructures. Physical Review B, 2005, 72, .	3.2	50
102	Phonons in strained In1âˆ’xGaxAsâˆ•InP epilayers characterized by infrared reflectance. Applied Physics Letters, 2005, 86, 221904.	3.3	7
103	Spin Waves in Nickel Nanorings of Large Aspect Ratio. Physical Review Letters, 2005, 94, 137208.	7.8	126
104	Advances in the growth and characterization of Ge quantum dots and islands. Journal of Materials Research, 2005, 20, 3278-3293.	2.6	16
105	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
106	Spin relaxation in quantum dots with random spin-orbit coupling. Physical Review B, 2005, 72, .	3.2	24
107	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
108	Magnon Squeezing in an Antiferromagnet: Reducing the Spin Noise below the Standard Quantum Limit. Physical Review Letters, 2004, 93, 107203.	7.8	85

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109	Carrier tunneling in nanocrystalline siliconâ€“silicon dioxide superlattices: A weak coupling model. Physical Review B, 2004, 69, .	3.2	14
110	Optical phonons inAlxGa1â^'xAs: Raman spectroscopy. Physical Review B, 2004, 70, .	3.2	40
111	Photoluminescence and Raman scattering in three-dimensional Si/Si1â^'xGex nanostructures. Applied Physics Letters, 2004, 84, 1293-1295.	3.3	45
112	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
113	Bovine serum albumin adsorption on passivated porous silicon layers. Canadian Journal of Chemistry, 2004, 82, 1545-1553.	1.1	25
114	Polarized Raman scattering and localized embedded strain in self-organized Si/Ge nanostructures. Applied Physics Letters, 2003, 83, 5035-5037.	3.3	27
115	Optical absorption in an amorphous silicon superlattice grown by molecular beam epitaxy. Solid State Communications, 2002, 122, 271-275.	1.9	21
116	Optical dispersion relationships in amorphous silicon grown by molecular beam epitaxy. Journal of Non-Crystalline Solids, 2001, 290, 57-63.	3.1	31
117	Disorder and the optical properties of amorphous silicon grown by molecular beam epitaxy. Solid State Communications, 2001, 120, 429-434.	1.9	35
118	Resonant tunneling in partially disordered silicon nanostructures. Europhysics Letters, 2001, 55, 552-558.	2.0	25
119	Strain in coherent-wave SiGe/Si superlattices. Solid State Communications, 2000, 114, 505-510.	1.9	85
120	Nanocrystalline-silicon superlattice produced by controlled recrystallization. Applied Physics Letters, 1998, 72, 43-45.	3.3	243
121	Light Emission in Silicon Nanostructures. , 1998, , 185-209.		5
122	Quantum Confined Luminescence inSi/SiO2Superlattices. Physical Review Letters, 1996, 76, 539-541.	7.8	430
123	Depth-dependent disordering ina-Si produced by self-ion-implantation. Physical Review B, 1994, 50, 17080-17084.	3.2	26
124	Folded acoustic phonons in Si/GexSi1â^'xstrained-layer superlattices. Physical Review B, 1987, 35, 2243-2251.	3.2	132
125	Raman scattering from the 1D antiferromagnets RbCoCl3and RbNiCl3. Journal of Physics C: Solid State Physics, 1983, 16, 6451-6474.	1.5	23
126	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

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127	Light scattering from electronic and magnetic excitations in transition-metal halides. Topics in Applied Physics, 1982, , 59-92.	0.8	9
128	Anomalous phonon intensities in the Raman spectrum of disordered CsMg1â^'xCoxCl3. Solid State Communications, 1981, 39, 395-400.	1.9	17
129	Influence of interchain coupling on the one-dimensional magnon Raman spectrum of CsCoBr3. Solid State Communications, 1980, 36, 593-597.	1.9	15
130	Lattice dynamics of the ordered vacancy compound HgIn2Square Operator Te4. Journal of Physics C: Solid State Physics, 1976, 9, 2997-3011.	1.5	31
131	Raman spectrum of AgGaS2. Journal of Physics C: Solid State Physics, 1975, 8, 3241-3250.	1.5	24
132	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