Rachel Goldman

List of Publications by Year
in descending order

131 papers	2,418 citations	236833 25 h-index	243529 44 g-index
133 all docs	133 docs citations	133 times ranked	2550 citing authors

#	Article	IF	Citations
1	Anomalous moment and anisotropy behavior inFe3O4films. Physical Review B, 1996, 53, 9175-9187.	1.1	404
2	Growth, disorder, and physical properties of ZnSnN2. Applied Physics Letters, 2013, 103, .	1.5	111
3	Effects of GaAs substrate misorientation on strain relaxation in InxGa1â^'xAs films and multilayers. Journal of Applied Physics, 1998, 83, 5137-5149.	1.1	102
4	Nanometer-scale studies of vertical organization and evolution of stacked self-assembled InAs/GaAs quantum dots. Applied Physics Letters, 1999, 74, 2824-2826.	1.5	71
5	Mechanisms of droplet formation and Bi incorporation during molecular beam epitaxy of GaAsBi. Applied Physics Letters, 2013, 102, .	1.5	70
6	Interdiffusion and surface segregation in stacked self-assembled InAs/GaAs quantum dots. Applied Physics Letters, 1999, 75, 2797-2799.	1.5	58
7	Formation of single crystal sulfur supersaturated silicon based junctions by pulsed laser melting. Journal of Vacuum Science & Technology B, 2007, 25, 1847.	1.3	56
8	Room-Temperature Epitaxial Electrodeposition of Single-Crystalline Germanium Nanowires at the Wafer Scale from an Aqueous Solution. Nano Letters, 2014, 14, 847-852.	4.5	53
9	Atomicâ€scale structure and electronic properties of GaN/GaAs superlattices. Applied Physics Letters, 1996, 69, 3698-3700.	1.5	52
10	Evolution of structural and electronic properties of highly mismatched InSb films. Journal of Applied Physics, 2000, 88, 6276-6286.	1.1	50
11	Mechanisms of nitrogen incorporation in GaAsN alloys. Applied Physics Letters, 2004, 85, 1692-1694.	1.5	48
12	Generation and Propagation of a Picosecond Acoustic Pulse at a Buried Interface: Time-Resolved X-Ray Diffraction Measurements. Physical Review Letters, 2005, 95, 246104.	2.9	38
13	Relationship between surface morphology and strain relaxation during growth of InGaAs strained layers. Applied Physics Letters, 1995, 67, 3744-3746.	1.5	37
14	Correlation of anisotropic strain relaxation with substrate misorientation direction at InGaAs/GaAs(001) interfaces. Applied Physics Letters, 1995, 67, 344-346.	1.5	37
15	Effects of buffer layers on the structural and electronic properties of InSb films. Journal of Applied Physics, 2005, 97, 043713.	1.1	37
16	Investigation of the Influence of a Writing-to-Learn Assignment on Student Understanding of Polymer Properties. Journal of Chemical Education, 2017, 94, 1610-1617.	1.1	36
17	Observation of Surface-Avoiding Waves: A New Class of Extended States in Periodic Media. Physical Review Letters, 2006, 97, 124301.	2.9	34
18	Asymmetric 3D Elasticâ€“Plastic Strainâ€Modulated Electron Energy Structure in Monolayer Graphene by Laser Shocking. Advanced Materials, 2019, 31, e1900597.	11.1	32

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19	Strain variations in InGaAsP/InGaP superlattices studied by scanning probe microscopy. Applied Physics Letters, 1998, 72, 1727-1729.	1.5	31
20	Initiation and evolution of phase separation in heteroepitaxial InAlAs films. Applied Physics Letters, 2002, 80, 3292-3294.	1.5	29
21	Probing Unfolded Acoustic Phonons with X Rays. Physical Review Letters, 2008, 101, 025505.	2.9	29
22	Influence of N interstitials on the electronic properties of GaAsN alloys. Applied Physics Letters, 2009, 95, .	1.5	28
23	A Brillouin scattering investigation of NiO. Journal of Magnetism and Magnetic Materials, 1994, 129, 327-333.	1.0	27
24	Evolution of structural and optical properties of ion-beam synthesized GaAsN nanostructures. Journal of Applied Physics, 2002, 92, 4012-4018.	1.1	27
25	Spin lifetime measurements in GaAsBi thin films. Applied Physics Letters, 2013, 102, 022420.	1.5	26
26	Study of Î¼mâ€scale spatial variations in strain of a compositionally stepâ€graded InxGa1â^'xAs/GaAs(001) heterostructure. Applied Physics Letters, 1995, 66, 869-871.	1.5	25
27	Influence of N on the electronic properties of GaAsN alloy films and heterostructures. Journal of Applied Physics, 2007, 102, .	1.1	25
28	Mechanisms of nanorod growth on focused-ion-beam-irradiated semiconductor surfaces: Role of redeposition. Applied Physics Letters, 2012, 100, 053103.	1.5	23
29	Anisotropic structural, electronic, and optical properties of InGaAs grown by molecular beam epitaxy on misoriented substrates. Applied Physics Letters, 1994, 65, 1424-1426.	1.5	22
30	Nitrogen composition dependence of electron effective mass in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mtext>GaAs</mml:mtext></mml:mrow><mml:mrow><mml:mn>1</mml:mn></mml:mrow></mml:msub></mml:mrow></mml:math>Physical Review B, 2010, 82, .	1.1	21
31	Growth of high density self-organized (In,Ga)As quantum dots with ultranarrow photoluminescence linewidths using buried In(Ga,Al)As stressor dots. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2000, 18, 1502.	1.6	20
32	Formation and coarsening of Ga droplets on focused-ion-beam irradiated GaAs surfaces. Applied Physics Letters, 2009, 95, .	1.5	20
33	Morphological and compositional variations in strain-compensated InGaAsP/InGaP superlattices. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 1997, 15, 1027.	1.6	19
34	Thermal transport in a semiconductor heterostructure measured by time-resolved x-ray diffraction. Physical Review B, 2008, 78, .	1.1	19
35	Influence of alloy buffer and capping layers on InAs/GaAs quantum dot formation. Applied Physics Letters, 2009, 95, 163114.	1.5	19
36	Superlattices and long-range order in electrodeposited dendrites. Physical Review Letters, 1990, 64, 2152-2155.	2.9	18

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37	Control of InAsâˆ•GaAs quantum dot density and alignment using modified buffer layers. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2005, 23, 1736.	1.6	18
38	Stress evolution in GaAsN alloy films. Journal of Applied Physics, 2005, 97, 103523.	1.1	18
39	Bi-enhanced N incorporation in GaAsNBi alloys. Applied Physics Letters, 2017, 110, .	1.5	18
40	Influence of wetting layers and quantum dot size distribution on intermediate band formation in InAs/GaAs superlattices. Journal of Applied Physics, 2011, 110, .	1.1	17
41	Surface plasmon resonances of Ga nanoparticle arrays. Applied Physics Letters, 2012, 101, 081905.	1.5	17
42	Surface photovoltage and modulation spectroscopy of Eâˆ’ and E+ transitions in GaNAs layers. Thin Solid Films, 2014, 567, 101-104.	0.8	17
43	Ion irradiation of IIIâ€“V semiconductor surfaces: From self-assembled nanostructures to plasmonic crystals. Applied Physics Reviews, 2019, 6, .	5.5	16
44	Optical detection of misfit dislocationâ€induced deep levels at InGaAs/GaAs heterojunctions. Applied Physics Letters, 1994, 64, 3572-3574.	1.5	15
45	Mechanisms of GaAsN growth: Surface and step-edge diffusion. Journal of Applied Physics, 2007, 101, 083520.	1.1	15
46	Formation and evolution of ripples on ion-irradiated semiconductor surfaces. Applied Physics Letters, 2014, 104, 052103.	1.5	15
47	Relaxation-induced polarized luminescence fromInxGa1âˆ’xAs films grown on GaAs(001). Physical Review B, 1995, 51, 5033-5037.	1.1	14
48	Nanometer-scale studies of Alâ€“Ga interdiffusion and As precipitate coarsening in nonstoichiometric AlAs/GaAs superlattices. Applied Physics Letters, 1999, 75, 4082-4084.	1.5	14
49	Ultrafast optical generation and remote detection of terahertz sound using semiconductor superlattices. Applied Physics Letters, 2007, 91, 023115.	1.5	14
50	Correlation of buffer strain relaxation modes with transport properties of twoâ€dimensional electron gases. Journal of Applied Physics, 1996, 80, 6849-6854.	1.1	13
51	Lateral indiumâ€“indium pair correlations within the wetting layers of buried InAs/GaAs quantum dots. Applied Physics Letters, 2002, 81, 1423-1425.	1.5	13
52	Nanoprobing of semiconductor heterointerfaces: quantum dots, alloys and diffusion. Journal Physics D: Applied Physics, 2004, 37, R163-R178.	1.3	13
53	Matrix-seeded growth of nitride semiconductor nanostructures using ion beams. Journal of Applied Physics, 2005, 97, 064301.	1.1	13
54	Formation mechanisms of embedded wurtzite and zincblende indium nitride nanocrystals. Applied Physics Letters, 2011, 99, 093108.	1.5	13

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55	Formation and transformation of embedded GaN nanocrystals. Applied Physics Letters, 2012, 100, .	1.5	13
56	Influence of surface reconstruction on dopant incorporation and transport properties of GaAs(Bi) alloys. Applied Physics Letters, 2016, 109, .	1.5	13
57	Nanometer-scale studies of point defect distributions in GaMnAs alloys. Applied Physics Letters, 2005, 86, 011911.	1.5	12
58	Thermoelectric properties of quantum dot chains. Journal of Applied Physics, 2009, 105, .	1.1	12
59	Correlating structure, strain, and morphology of self-assembled InAs quantum dots on GaAs. Applied Physics Letters, 2011, 98, .	1.5	12
60	Universal mechanism for ion-induced nanostructure formation on III-V compound semiconductor surfaces. Applied Physics Letters, 2012, 101, 082101.	1.5	12
61	Kinetics of Carbonâ€“NO Reaction Studied by Scanning Tunneling Microscopy on the Basal Plane of Graphite. Journal of Catalysis, 1998, 180, 245-257.	3.1	11
62	Nanodot formation induced by femtosecond laser irradiation. Applied Physics Letters, 2014, 105, .	1.5	11
63	Why do nanowires grow with their c-axis vertically-aligned in the absence of epitaxy?. Scientific Reports, 2020, 10, 6554.	1.6	11
64	INTERDIFFUSION, SEGREGATION, AND DISSOLUTION IN InAs/GaAs QUANTUM DOT SUPERLATTICES. Surface Review and Letters, 2000, 07, 539-545.	0.5	10
65	Formation and blistering of GaAsN nanostructure layers. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2004, 22, 989.	1.6	10
66	Influence of Siâ€“N complexes on the electronic properties of GaAsN alloys. Applied Physics Letters, 2009, 95, 092109.	1.5	10
67	Identifying the dominant interstitial complex in dilute GaAsN alloys. Applied Physics Letters, 2015, 107, .	1.5	10
68	Structural and compositional variations in ZnSnP2/GaAs superlattices. Applied Physics Letters, 2000, 77, 2894-2896.	1.5	9
69	Nanometer-scale measurements of electronic states in InAsâˆ•GaAs quantum dots. Journal of Applied Physics, 2009, 106, 014315.	1.1	9
70	Modulation-doped In0.53Ga0.47As/In0.52Al0.48As heterostructures grown on GaAs substrates using step-graded InxGa1âˆ’xAs buffers. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 1996, 14, 3035.	1.6	8
71	Mechanisms of InAs/GaAs quantum dot formation during annealing of In islands. Applied Physics Letters, 2013, 103, .	1.5	8
72	Origins of enhanced thermoelectric power factor in topologically insulating Bi0.64Sb1.36Te3 thin films. Applied Physics Letters, 2016, 108, .	1.5	8

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73	Quasi-ordering of composition fluctuations and their interaction with lattice imperfections in an optical spectra of dilute nitride alloys. Semiconductor Science and Technology, 2016, 31, 095012.	1.0	8
74	Surfactant-induced chemical ordering of GaAsN:Bi. Applied Physics Letters, 2018, 113, .	1.5	8
75	Mechanisms of lateral ordering of InAs/GaAs quantum dot superlattices. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2003, 21, 1920.	1.6	7
76	Moments-based tight-binding calculations of local electronic structure in InAs/GaAs quantum dots for comparison to experimental measurements. Applied Physics Letters, 2006, 88, 053109.	1.5	7
77	Influence of N incorporation on persistent photoconductivity in GaAsN alloys. Physical Review B, 2013, 87, .	1.1	7
78	Ga nanoparticle-enhanced photoluminescence of GaAs. Applied Physics Letters, 2013, 103, .	1.5	7
79	Origins of ion irradiation-induced Ga nanoparticle motion on GaAs surfaces. Applied Physics Letters, 2013, 103, .	1.5	7
80	<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>g</mml:mi></mml:math>-factor modification in a bulk InGaAs epilayer by an in-plane electric field. Physical Review B, 2015, 91, .	1.1	7
81	Mapping the composition-dependence of the energy bandgap of GaAsNBi alloys. Applied Physics Letters, 2019, 115, 082106.	1.5	7
82	Mechanisms of semiconductor nanostructure formation. Physica Status Solidi A, 2003, 195, 151-158.	1.7	6
83	Initiation and evolution of phase separation in GaP/InP short-period superlattices. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2004, 22, 216.	1.6	6
84	Formation mechanisms of spatially-directed zincblende gallium nitride nanocrystals. Journal of Applied Physics, 2011, 110, 124307.	1.1	6
85	Influence of GaAs surface termination on GaSb/GaAs quantum dot structure and band offsets. Applied Physics Letters, 2013, 103, 082107.	1.5	6
86	Current-induced spin polarization in InGaAs and GaAs epilayers with varying doping densities. Physical Review B, 2017, 96, .	1.1	6
87	Temperature-dependent study of GaAs1â^'xâ^'y N x Bi y alloys for band-gap engineering: photoreflectance and k Â· p modeling. Applied Physics Express, 2020, 13, 091005.	1.1	6
88	Blister formation in ion-implanted GaAs: Role of diffusivity. Applied Physics Letters, 2009, 95, 111912.	1.5	5
89	Evolution of structural and thermoelectric properties of indium-ion-implanted epitaxial GaAs. Applied Physics Letters, 2012, 100, .	1.5	5
90	Quantifying the local Seebeck coefficient with scanning thermoelectric microscopy. Applied Physics Letters, 2013, 103, .	1.5	5

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91	Influence of electron irradiation and rapid thermal annealing on photoluminescence from GaAsNBi alloys. Applied Physics Letters, 2020, 117, 142106.	1.5	5
92	Influence of quantum dot morphology on the optical properties of GaSb/GaAs multilayers. Applied Physics Letters, 2020, 116, .	1.5	5
93	Dislocation-Induced deep level states in In0.08Ga0.92As/GaAs heterostructures. Journal of Electronic Materials, 1994, 23, 929-933.	1.0	4
94	In situ detection of misfit dislocations by light scattering. Journal of Crystal Growth, 1997, 174, 550-557.	0.7	4
95	Origins of luminescence from nitrogen-ion-implanted epitaxial GaAs. Applied Physics Letters, 2004, 85, 2774-2776.	1.5	4
96	Influence of Mn dopants on InAs/GaAs quantum dot electronic states. Applied Physics Letters, 2011, 98, 141907.	1.5	4
97	Influence of embedded indium nanocrystals on GaAs thermoelectric properties. Journal of Applied Physics, 2013, 114, 043704.	1.1	4
98	Influence of Sb incorporation on InGaAs(Sb)N/GaAs band alignment. Applied Physics Letters, 2014, 105, 142105.	1.5	4
99	Formation of embedded plasmonic Ga nanoparticle arrays and their influence on GaAs photoluminescence. Journal of Applied Physics, 2017, 122, .	1.1	4
100	Mechanisms of GaN quantum dot formation during nitridation of Ga droplets. Applied Physics Letters, 2020, 116, .	1.5	4
101	<title>Control of surface morphology and strain relaxation in InGaAs grown on GaAs using a step-graded buffer</title>. , 1994, 2140, 179.		3
102	Nanometer-scale studies of nitride/arsenide heterostructures produced by nitrogen plasma exposure of GaAs. Journal of Electronic Materials, 1997, 26, 1342-1348.	1.0	3
103	Influence of Bi on embedded nanocrystal formation and thermoelectric properties of GaAs. Journal of Applied Physics, 2015, 117, .	1.1	3
104	Influence of surface nano-patterning on the placement of InAs quantum dots. Journal of Applied Physics, 2018, 124, 115307.	1.1	3
105	Formation and properties of InGaN QDs: Influence of substrates. Applied Physics Letters, 2019, 114, .	1.5	3
106	Strain relaxation induced deep levels in In1â^'xGaxAs thin films. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1994, 12, 1050-1053.	0.9	2
107	Influence of GaAs(001) substrate misorientation towards {111} on the optical properties of InxGa1â^'xAs/GaAs. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 1995, 13, 1766.	1.6	2
108	Formation mechanisms of embedded nanocrystals in SiNx. Applied Physics Letters, 2013, 102, 243111.	1.5	2

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109	Evolution of ion-induced nanoparticle arrays on GaAs surfaces. Applied Physics Letters, 2014, 104, .	1.5	2
110	Ordered horizontal Sb2Te3 nanowires induced by femtosecond lasers. Applied Physics Letters, 2014, 105, .	1.5	2
111	Origins of interlayer formation and misfit dislocation displacement in the vicinity of InAs/GaAs quantum dots. Applied Physics Letters, 2014, 105, 032107.	1.5	2
112	Profiling the local carrier concentration across a semiconductor quantum dot. Applied Physics Letters, 2015, 106, 192101.	1.5	2
113	Morphological design of complex oxides during pulsed-laser deposition: The role of plasma-plume expansion. Journal of Applied Physics, 2019, 126, .	1.1	2
114	Homogeneous Strain Relaxation and Mosaic Spread in IngaAs/GaAs Heterostructures Using Triple Axis Diffractometry. , 1995, , 221-226.		2
115	Writing-to-learn in introductory materials science and engineering. MRS Communications, 2022, 12, 1.	0.8	2
116	Anisotropic Structural and Electronic Properties of InGaAs/GaAs Heterojunctions. Materials Research Society Symposia Proceedings, 1994, 340, 349.	0.1	1
117	Gate-controlled modulation of charge transport in long-channel, Î´-doped, heterojunction Hall-bar structures. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 1995, 13, 1853.	1.6	1
118	Formation and transfer of GaAsN nanostructure layers. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2011, 29, 060601.	0.9	1
119	Formation and coarsening of near-surface Ga nanoparticles on SiNx. Applied Physics Letters, 2015, 106, 243102.	1.5	1
120	Influence of strain and dislocations on GaSb/GaAs quantum dots: From nested to staggered band alignment. Journal of Applied Physics, 2022, 131, .	1.1	1
121	Homogeneous Strain Relaxation and Mosaic Spread in InGaAs/GaAs Heterostructures Using Triple Axis Diffractometry. Advances in X-ray Analysis, 1994, 38, 221-226.	0.0	0
122	Light Scattering Study of the Evolution of the Surface Morphology During Growth of Ingaas on GaAs. Materials Research Society Symposia Proceedings, 1994, 375, 193.	0.1	0
123	Effects of Substrate Misorientation Direction on Strain Relaxation at InGaAs/GaAs(001) Interfaces. Materials Research Society Symposia Proceedings, 1995, 379, 21.	0.1	0
124	Structural and Magnetic Characterization of Bi-Substituted Garnet on Si and GaAs. Materials Research Society Symposia Proceedings, 1995, 384, 41.	0.1	0
125	Photoconduction studies on InGaAs HEMTs. , 1997, , .		0
126	Generation and Remote Detection of Coherent Folded Acoustic Phonons. AIP Conference Proceedings, 2005, , .	0.3	0

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127	In-Plane Thermoelectric Properties of Horizontally Aligned InAs/GaAs Quantum Dot Superlattices. , 2006, , 541.		0
128	Linking computational and experimental studies of IIIâ€“V quantum dots for optoelectronics and photovoltaics. Jom, 2011, 63, 20-26.	0.9	0
129	STM OF SELF ASSEMBLED IIIâ€“V NANOSTRUCTURES. Materials and Energy, 2011, , 369-406.	2.5	0
130	Effect of modified periodic waveforms on current-induced spin polarization measurements. AIP Advances, 2018, 8, .	0.6	0
131	Influence of gallium surface saturation on GaN nanowire polytype selection during molecular-beam epitaxy. Applied Physics Letters, 2021, 119, 031601.	1.5	0