

Rachel Goldman

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129
papers

2,146
citations

23
h-index

41
g-index

132
ext. papers

2,277
ext. citations

3.5
avg, IF

4.29
L-index

#	Paper	IF	Citations
129	Anomalous moment and anisotropy behavior in Fe ₃ O ₄ films. <i>Physical Review B</i> , 1996 , 53, 9175-9187	3.3	384
128	Growth, disorder, and physical properties of ZnSnN ₂ . <i>Applied Physics Letters</i> , 2013 , 103, 042109	3.4	98
127	Effects of GaAs substrate misorientation on strain relaxation in In _x Ga _{1-x} As films and multilayers. <i>Journal of Applied Physics</i> , 1998 , 83, 5137-5149	2.5	91
126	Nanometer-scale studies of vertical organization and evolution of stacked self-assembled InAs/GaAs quantum dots. <i>Applied Physics Letters</i> , 1999 , 74, 2824-2826	3.4	71
125	Mechanisms of droplet formation and Bi incorporation during molecular beam epitaxy of GaAsBi. <i>Applied Physics Letters</i> , 2013 , 102, 042106	3.4	60
124	Interdiffusion and surface segregation in stacked self-assembled InAs/GaAs quantum dots. <i>Applied Physics Letters</i> , 1999 , 75, 2797-2799	3.4	56
123	Formation of single crystal sulfur supersaturated silicon based junctions by pulsed laser melting. <i>Journal of Vacuum Science & Technology B</i> , 2007 , 25, 1847		55
122	Atomic-scale structure and electronic properties of GaN/GaAs superlattices. <i>Applied Physics Letters</i> , 1996 , 69, 3698-3700	3.4	49
121	Evolution of structural and electronic properties of highly mismatched InSb films. <i>Journal of Applied Physics</i> , 2000 , 88, 6276-6286	2.5	48
120	Mechanisms of nitrogen incorporation in GaAsN alloys. <i>Applied Physics Letters</i> , 2004 , 85, 1692-1694	3.4	46
119	Room-temperature epitaxial electrodeposition of single-crystalline germanium nanowires at the wafer scale from an aqueous solution. <i>Nano Letters</i> , 2014 , 14, 847-52	11.5	45
118	Effects of buffer layers on the structural and electronic properties of InSb films. <i>Journal of Applied Physics</i> , 2005 , 97, 043713	2.5	34
117	Generation and propagation of a picosecond acoustic pulse at a buried interface: time-resolved x-ray diffraction measurements. <i>Physical Review Letters</i> , 2005 , 95, 246104	7.4	33
116	Relationship between surface morphology and strain relaxation during growth of InGaAs strained layers. <i>Applied Physics Letters</i> , 1995 , 67, 3744-3746	3.4	32
115	Observation of surface-avoiding waves: a new class of extended states in periodic media. <i>Physical Review Letters</i> , 2006 , 97, 124301	7.4	31
114	Correlation of anisotropic strain relaxation with substrate misorientation direction at InGaAs/GaAs(001) interfaces. <i>Applied Physics Letters</i> , 1995 , 67, 344-346	3.4	30
113	Probing unfolded acoustic phonons with X rays. <i>Physical Review Letters</i> , 2008 , 101, 025505	7.4	28

112	Strain variations in InGaAsP/InGaP superlattices studied by scanning probe microscopy. <i>Applied Physics Letters</i> , 1998 , 72, 1727-1729	3.4	28
111	Initiation and evolution of phase separation in heteroepitaxial InAlAs films. <i>Applied Physics Letters</i> , 2002 , 80, 3292-3294	3.4	26
110	Influence of N interstitials on the electronic properties of GaAsN alloys. <i>Applied Physics Letters</i> , 2009 , 95, 062109	3.4	25
109	Study of μ -scale spatial variations in strain of a compositionally step-graded In _x Ga _{1-x} As/GaAs(001) heterostructure. <i>Applied Physics Letters</i> , 1995 , 66, 869-871	3.4	25
108	Evolution of structural and optical properties of ion-beam synthesized GaAsN nanostructures. <i>Journal of Applied Physics</i> , 2002 , 92, 4012-4018	2.5	24
107	Spin lifetime measurements in GaAsBi thin films. <i>Applied Physics Letters</i> , 2013 , 102, 022420	3.4	23
106	Investigation of the Influence of a Writing-to-Learn Assignment on Student Understanding of Polymer Properties. <i>Journal of Chemical Education</i> , 2017 , 94, 1610-1617	2.4	22
105	Mechanisms of nanorod growth on focused-ion-beam-irradiated semiconductor surfaces: Role of redeposition. <i>Applied Physics Letters</i> , 2012 , 100, 053103	3.4	22
104	Influence of N on the electronic properties of GaAsN alloy films and heterostructures. <i>Journal of Applied Physics</i> , 2007 , 102, 103710	2.5	22
103	A Brillouin scattering investigation of NiO. <i>Journal of Magnetism and Magnetic Materials</i> , 1994 , 129, 327-333	3.3	22
102	Influence of alloy buffer and capping layers on InAs/GaAs quantum dot formation. <i>Applied Physics Letters</i> , 2009 , 95, 163114	3.4	19
101	Formation and coarsening of Ga droplets on focused-ion-beam irradiated GaAs surfaces. <i>Applied Physics Letters</i> , 2009 , 95, 153107	3.4	19
100	Anisotropic structural, electronic, and optical properties of InGaAs grown by molecular beam epitaxy on misoriented substrates. <i>Applied Physics Letters</i> , 1994 , 65, 1424-1426	3.4	19
99	Nitrogen composition dependence of electron effective mass in GaAs _{1-x} N _x . <i>Physical Review B</i> , 2010 , 82,	3.3	18
98	Morphological and compositional variations in strain-compensated InGaAsP/InGaP superlattices. <i>Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena</i> , 1997 , 15, 1027		18
97	Stress evolution in GaAsN alloy films. <i>Journal of Applied Physics</i> , 2005 , 97, 103523	2.5	17
96	Control of InAs/GaAs quantum dot density and alignment using modified buffer layers. <i>Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena</i> , 2005 , 23, 1736		17
95	Formation and evolution of ripples on ion-irradiated semiconductor surfaces. <i>Applied Physics Letters</i> , 2014 , 104, 052103	3.4	15

94	Thermal transport in a semiconductor heterostructure measured by time-resolved x-ray diffraction. <i>Physical Review B</i> , 2008 , 78,	3.3	15
93	Mechanisms of GaAsN growth: Surface and step-edge diffusion. <i>Journal of Applied Physics</i> , 2007 , 101, 083520	2.5	15
92	Growth of high density self-organized (In,Ga)As quantum dots with ultranarrow photoluminescence linewidths using buried In(Ga,Al)As stressor dots. <i>Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena</i> , 2000 , 18, 1502		15
91	Bi-enhanced N incorporation in GaAsN _{Bi} alloys. <i>Applied Physics Letters</i> , 2017 , 110, 242102	3.4	14
90	Surface photovoltage and modulation spectroscopy of E ₁ and E ₁ ⁺ transitions in GaNAs layers. <i>Thin Solid Films</i> , 2014 , 567, 101-104	2.2	14
89	Surface plasmon resonances of Ga nanoparticle arrays. <i>Applied Physics Letters</i> , 2012 , 101, 081905	3.4	14
88	Influence of wetting layers and quantum dot size distribution on intermediate band formation in InAs/GaAs superlattices. <i>Journal of Applied Physics</i> , 2011 , 110, 073105	2.5	14
87	Ultrafast optical generation and remote detection of terahertz sound using semiconductor superlattices. <i>Applied Physics Letters</i> , 2007 , 91, 023115	3.4	14
86	Nanometer-scale studies of Al _{0.5} Ga _{0.5} interdiffusion and As precipitate coarsening in nonstoichiometric AlAs/GaAs superlattices. <i>Applied Physics Letters</i> , 1999 , 75, 4082-4084	3.4	14
85	Superlattices and long-range order in electrodeposited dendrites. <i>Physical Review Letters</i> , 1990 , 64, 2152-2155	3.4	14
84	Asymmetric 3D Elastic-Plastic Strain-Modulated Electron Energy Structure in Monolayer Graphene by Laser Shocking. <i>Advanced Materials</i> , 2019 , 31, e1900597	2.4	13
83	Formation mechanisms of embedded wurtzite and zincblende indium nitride nanocrystals. <i>Applied Physics Letters</i> , 2011 , 99, 093108	3.4	13
82	Matrix-seeded growth of nitride semiconductor nanostructures using ion beams. <i>Journal of Applied Physics</i> , 2005 , 97, 064301	2.5	13
81	Universal mechanism for ion-induced nanostructure formation on III-V compound semiconductor surfaces. <i>Applied Physics Letters</i> , 2012 , 101, 082101	3.4	12
80	Formation and transformation of embedded GaN nanocrystals. <i>Applied Physics Letters</i> , 2012 , 100, 203113	3.4	12
79	Thermoelectric properties of quantum dot chains. <i>Journal of Applied Physics</i> , 2009 , 105, 093711	2.5	12
78	Nanoprobng of semiconductor heterointerfaces: quantum dots, alloys and diffusion. <i>Journal Physics D: Applied Physics</i> , 2004 , 37, R163-R178	3	12
77	Nanometer-scale studies of point defect distributions in GaMnAs alloys. <i>Applied Physics Letters</i> , 2005 , 86, 011911	3.4	12

76	Relaxation-induced polarized luminescence from In _x Ga _{1-x} As films grown on GaAs(001). <i>Physical Review B</i> , 1995 , 51, 5033-5037	3.3	12
75	Optical detection of misfit dislocation-induced deep levels at InGaAs/GaAs heterojunctions. <i>Applied Physics Letters</i> , 1994 , 64, 3572-3574	3.4	12
74	Influence of surface reconstruction on dopant incorporation and transport properties of GaAs(Bi) alloys. <i>Applied Physics Letters</i> , 2016 , 109, 252105	3.4	12
73	Lateral indium-indium pair correlations within the wetting layers of buried InAs/GaAs quantum dots. <i>Applied Physics Letters</i> , 2002 , 81, 1423-1425	3.4	11
72	Nanodot formation induced by femtosecond laser irradiation. <i>Applied Physics Letters</i> , 2014 , 105, 163103	3.4	10
71	Influence of Si ₂ complexes on the electronic properties of GaAsN alloys. <i>Applied Physics Letters</i> , 2009 , 95, 092109	3.4	10
70	Correlating structure, strain, and morphology of self-assembled InAs quantum dots on GaAs. <i>Applied Physics Letters</i> , 2011 , 98, 021903	3.4	10
69	Formation and blistering of GaAsN nanostructure layers. <i>Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena</i> , 2004 , 22, 989		10
68	Ion irradiation of III-V semiconductor surfaces: From self-assembled nanostructures to plasmonic crystals. <i>Applied Physics Reviews</i> , 2019 , 6, 041307	17.3	9
67	Nanometer-scale measurements of electronic states in InAs/GaAs quantum dots. <i>Journal of Applied Physics</i> , 2009 , 106, 014315	2.5	9
66	Kinetics of Carbon ₂ O Reaction Studied by Scanning Tunneling Microscopy on the Basal Plane of Graphite. <i>Journal of Catalysis</i> , 1998 , 180, 245-257	7.3	9
65	Correlation of buffer strain relaxation modes with transport properties of two-dimensional electron gases. <i>Journal of Applied Physics</i> , 1996 , 80, 6849-6854	2.5	9
64	Identifying the dominant interstitial complex in dilute GaAsN alloys. <i>Applied Physics Letters</i> , 2015 , 107, 221904	3.4	8
63	Structural and compositional variations in ZnSnP ₂ /GaAs superlattices. <i>Applied Physics Letters</i> , 2000 , 77, 2894-2896	3.4	8
62	INTERDIFFUSION, SEGREGATION, AND DISSOLUTION IN InAs/GaAs QUANTUM DOT SUPERLATTICES. <i>Surface Review and Letters</i> , 2000 , 07, 539-545	1.1	8
61	Origins of enhanced thermoelectric power factor in topologically insulating Bi _{0.64} Sb _{1.36} Te ₃ thin films. <i>Applied Physics Letters</i> , 2016 , 108, 043902	3.4	8
60	Surfactant-induced chemical ordering of GaAsN:Bi. <i>Applied Physics Letters</i> , 2018 , 113, 211602	3.4	8
59	Mechanisms of InAs/GaAs quantum dot formation during annealing of In islands. <i>Applied Physics Letters</i> , 2013 , 103, 132104	3.4	7

58	Ga nanoparticle-enhanced photoluminescence of GaAs. <i>Applied Physics Letters</i> , 2013 , 103, 101903	3-4	7
57	Origins of ion irradiation-induced Ga nanoparticle motion on GaAs surfaces. <i>Applied Physics Letters</i> , 2013 , 103, 072115	3-4	7
56	Modulation-doped In _{0.53} Ga _{0.47} As/In _{0.52} Al _{0.48} As heterostructures grown on GaAs substrates using step-graded In _x Ga _{1-x} As buffers. <i>Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena</i> , 1996 , 14, 3035		7
55	Moments-based tight-binding calculations of local electronic structure in InAs/GaAs quantum dots for comparison to experimental measurements. <i>Applied Physics Letters</i> , 2006 , 88, 053109	3-4	7
54	Quasi-ordering of composition fluctuations and their interaction with lattice imperfections in an optical spectra of dilute nitride alloys. <i>Semiconductor Science and Technology</i> , 2016 , 31, 095012	1.8	6
53	Influence of GaAs surface termination on GaSb/GaAs quantum dot structure and band offsets. <i>Applied Physics Letters</i> , 2013 , 103, 082107	3-4	6
52	Influence of N incorporation on persistent photoconductivity in GaAsN alloys. <i>Physical Review B</i> , 2013 , 87,	3-3	6
51	Formation mechanisms of spatially-directed zincblende gallium nitride nanocrystals. <i>Journal of Applied Physics</i> , 2011 , 110, 124307	2.5	6
50	Mechanisms of lateral ordering of InAs/GaAs quantum dot superlattices. <i>Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena</i> , 2003 , 21, 1920		6
49	Initiation and evolution of phase separation in GaP/InP short-period superlattices. <i>Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena</i> , 2004 , 22, 216		6
48	Mechanisms of semiconductor nanostructure formation. <i>Physica Status Solidi A</i> , 2003 , 195, 151-158		6
47	Why do nanowires grow with their c-axis vertically-aligned in the absence of epitaxy?. <i>Scientific Reports</i> , 2020 , 10, 6554	4-9	5
46	g-factor modification in a bulk InGaAs epilayer by an in-plane electric field. <i>Physical Review B</i> , 2015 , 91,	3-3	5
45	Evolution of structural and thermoelectric properties of indium-ion-implanted epitaxial GaAs. <i>Applied Physics Letters</i> , 2012 , 100, 102101	3-4	5
44	Mapping the composition-dependence of the energy bandgap of GaAsN _{Bi} alloys. <i>Applied Physics Letters</i> , 2019 , 115, 082106	3-4	4
43	Current-induced spin polarization in InGaAs and GaAs epilayers with varying doping densities. <i>Physical Review B</i> , 2017 , 96,	3-3	4
42	Influence of Sb incorporation on InGaAs(Sb)N/GaAs band alignment. <i>Applied Physics Letters</i> , 2014 , 105, 142105	3-4	4
41	Blister formation in ion-implanted GaAs: Role of diffusivity. <i>Applied Physics Letters</i> , 2009 , 95, 111912	3-4	4

40	Influence of Mn dopants on InAs/GaAs quantum dot electronic states. <i>Applied Physics Letters</i> , 2011 , 98, 141907	3.4	4
39	In situ detection of misfit dislocations by light scattering. <i>Journal of Crystal Growth</i> , 1997 , 174, 550-557	1.6	4
38	Origins of luminescence from nitrogen-ion-implanted epitaxial GaAs. <i>Applied Physics Letters</i> , 2004 , 85, 2774-2776	3.4	4
37	Quantifying the local Seebeck coefficient with scanning thermoelectric microscopy. <i>Applied Physics Letters</i> , 2013 , 103, 212101	3.4	3
36	Influence of embedded indium nanocrystals on GaAs thermoelectric properties. <i>Journal of Applied Physics</i> , 2013 , 114, 043704	2.5	3
35	Nanometer-scale studies of nitride/arsenide heterostructures produced by nitrogen plasma exposure of GaAs. <i>Journal of Electronic Materials</i> , 1997 , 26, 1342-1348	1.9	3
34	Dislocation-Induced deep level states in In _{0.08} Ga _{0.92} As/GaAs heterostructures. <i>Journal of Electronic Materials</i> , 1994 , 23, 929-933	1.9	3
33	Control of surface morphology and strain relaxation in InGaAs grown on GaAs using a step-graded buffer 1994 , 2140, 179		3
32	Influence of electron irradiation and rapid thermal annealing on photoluminescence from GaAsNBi alloys. <i>Applied Physics Letters</i> , 2020 , 117, 142106	3.4	3
31	Formation and properties of InGaN QDs: Influence of substrates. <i>Applied Physics Letters</i> , 2019 , 114, 062106	3.4	2
30	Profiling the local carrier concentration across a semiconductor quantum dot. <i>Applied Physics Letters</i> , 2015 , 106, 192101	3.4	2
29	Mechanisms of GaN quantum dot formation during nitridation of Ga droplets. <i>Applied Physics Letters</i> , 2020 , 116, 062107	3.4	2
28	Morphological design of complex oxides during pulsed-laser deposition: The role of plasma-plume expansion. <i>Journal of Applied Physics</i> , 2019 , 126, 184301	2.5	2
27	Formation of embedded plasmonic Ga nanoparticle arrays and their influence on GaAs photoluminescence. <i>Journal of Applied Physics</i> , 2017 , 122, 033102	2.5	2
26	Influence of Bi on embedded nanocrystal formation and thermoelectric properties of GaAs. <i>Journal of Applied Physics</i> , 2015 , 117, 065101	2.5	2
25	Evolution of ion-induced nanoparticle arrays on GaAs surfaces. <i>Applied Physics Letters</i> , 2014 , 104, 182102	3.4	2
24	Formation mechanisms of embedded nanocrystals in SiN _x . <i>Applied Physics Letters</i> , 2013 , 102, 243111	3.4	2
23	Influence of GaAs(001) substrate misorientation towards {111} on the optical properties of In _x Ga _{1-x} As/GaAs. <i>Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena</i> , 1995 , 13, 1766		2

22	Strain relaxation induced deep levels in In _{1-x} Ga _x As thin films. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 1994 , 12, 1050-1053	2.9	2
21	Temperature-dependent study of GaAs _{1-x} N _x Bi _y alloys for band-gap engineering: photoreflectance and k p modeling. <i>Applied Physics Express</i> , 2020 , 13, 091005	2.4	2
20	Influence of quantum dot morphology on the optical properties of GaSb/GaAs multilayers. <i>Applied Physics Letters</i> , 2020 , 116, 252107	3.4	1
19	Origins of interlayer formation and misfit dislocation displacement in the vicinity of InAs/GaAs quantum dots. <i>Applied Physics Letters</i> , 2014 , 105, 032107	3.4	1
18	Formation and coarsening of near-surface Ga nanoparticles on SiN _x . <i>Applied Physics Letters</i> , 2015 , 106, 243102	3.4	1
17	Formation and transfer of GaAsN nanostructure layers. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 2011 , 29, 060601	2.9	1
16	Gate-controlled modulation of charge transport in long-channel, Edoped, heterojunction Hall-bar structures. <i>Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena</i> , 1995 , 13, 1853		1
15	Anisotropic Structural and Electronic Properties of InGaAs/GaAs Heterojunctions. <i>Materials Research Society Symposia Proceedings</i> , 1994 , 340, 349		1
14	Writing-to-learn in introductory materials science and engineering. <i>MRS Communications</i> , 2022 , 12, 1	2.7	1
13	Influence of surface nano-patterning on the placement of InAs quantum dots. <i>Journal of Applied Physics</i> , 2018 , 124, 115307	2.5	1
12	Homogeneous Strain Relaxation and Mosaic Spread in InGaAs/GaAs Heterostructures Using Triple Axis Diffractometry 1995 , 221-226		1
11	Ordered horizontal Sb ₂ Te ₃ nanowires induced by femtosecond lasers. <i>Applied Physics Letters</i> , 2014 , 105, 201904	3.4	0
10	Influence of strain and dislocations on GaSb/GaAs quantum dots: From nested to staggered band alignment. <i>Journal of Applied Physics</i> , 2022 , 131, 085703	2.5	0
9	Linking computational and experimental studies of III _V quantum dots for optoelectronics and photovoltaics. <i>Jom</i> , 2011 , 63, 20-26	2.1	
8	STM OF SELF ASSEMBLED III _V NANOSTRUCTURES. <i>Materials and Energy</i> , 2011 , 369-406		
7	In-Plane Thermoelectric Properties of Horizontally Aligned InAs/GaAs Quantum Dot Superlattices 2006 , 541		
6	Structural and Magnetic Characterization of Bi-Substituted Garnet on Si and GaAs. <i>Materials Research Society Symposia Proceedings</i> , 1995 , 384, 41		
5	Homogeneous Strain Relaxation and Mosaic Spread in InGaAs/GaAs Heterostructures Using Triple Axis Diffractometry. <i>Advances in X-ray Analysis</i> , 1994 , 38, 221-226		

- 4 Light Scattering Study of the Evolution of the Surface Morphology During Growth of InGaAs on GaAs. *Materials Research Society Symposia Proceedings*, **1994**, 375, 193
- 3 Effects of Substrate Misorientation Direction on Strain Relaxation at InGaAs/GaAs(001) Interfaces. *Materials Research Society Symposia Proceedings*, **1995**, 379, 21
- 2 Effect of modified periodic waveforms on current-induced spin polarization measurements. *AIP Advances*, **2018**, 8, 065113 1.5
- 1 Influence of gallium surface saturation on GaN nanowire polytype selection during molecular-beam epitaxy. *Applied Physics Letters*, **2021**, 119, 031601 3.4