David Gonzalez

List of Publications by Year
in descending order

135 papers	1,532 citations	331670 21 h-index	434195 31 g-index
140 all docs	140 docs citations	140 times ranked	1577 citing authors

#	Article	IF	Citations
1	Effect of dislocations on electrical and electron transport properties of InN thin films. II. Density and mobility of the carriers. Journal of Applied Physics, 2006, 100, 094903.	2.5	74
2	Determination of the composition of InxGa1â^'xN from strain measurements. Acta Materialia, 2009, 57, 5681-5692.	7.9	65
3	Identification of IIIâ€"N nanowire growth kinetics via a marker technique. Nanotechnology, 2010, 21, 295605.	2.6	57
4	Bismuth incorporation and the role of ordering in GaAsBi/GaAs structures. Nanoscale Research Letters, 2014, 9, 23.	5.7	56
5	Comparison of the crystalline quality of step-graded and continuously graded InGaAs buffer layers. Journal of Crystal Growth, 1996, 169, 649-659.	1.5	44
6	Effect of dislocations on electrical and electron transport properties of InN thin films. I. Strain relief and formation of a dislocation network. Journal of Applied Physics, 2006, 100, 094902.	2.5	44
7	Effect of N2 and H2 plasma treatments on band edge emission of ZnO microrods. Scientific Reports, 2015, 5, 10783.	3.3	43
8	Cubic InN growth on sapphire (0001) using cubic indium oxide as buffer layer. Applied Physics Letters, 2007, 90, 091901.	3.3	37
9	Misfit relaxation of InN quantum dots: Effect of the GaN capping layer. Applied Physics Letters, 2006, 88, 151913.	3.3	35
10	Performance of the stopped-flow technique in chemiluminescence spectrometry based on direct rate measurements. Analytica Chimica Acta, 1989, 217, 239-247.	5.4	30
11	Study of Morphological and Related Properties of Aligned Zinc Oxide Nanorods Grown by Vapor Phase Transport on Chemical Bath Deposited Buffer Layers. Crystal Growth and Design, 2011, 11, 5378-5386.	3.0	29
12	Nucleation of InN quantum dots on GaN by metalorganic vapor phase epitaxy. Applied Physics Letters, 2005, 87, 263104.	3.3	28
13	Coalescence aspects of III-nitride epitaxy. Journal of Applied Physics, 2007, 101, 054906.	2.5	27
14	Structural and compositional homogeneity of InAlN epitaxial layers nearly lattice-matched to GaN. Acta Materialia, 2010, 58, 4120-4125.	7.9	26
15	Size and shape tunability of self-assembled InAs/GaAs nanostructures through the capping rate. Applied Surface Science, 2018, 444, 260-266.	6.1	26
16	High efficient luminescence in type-II GaAsSb-capped InAs quantum dots upon annealing. Applied Physics Letters, 2012, 101, .	3.3	25
17	The effect of estuarine fisheries on juvenile fish observed within the Guadalquivir Estuary (SW Spain). Fisheries Research, 2005, 76, 229-242.	1.7	24
18	Atomic scale high-angle annular dark field STEM analysis of the N configuration in dilute nitrides of GaAs. Physical Review B, 2009, 80, .	3.2	22

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19	Independent tuning of electron and hole confinement in InAs/GaAs quantum dots through a thin GaAsSbN capping layer. Applied Physics Letters, 2012, 100, .	3.3	22
20	Formation of Tetragonal InBi Clusters in InAsBi/InAs(100) Heterostructures Grown by Molecular Beam Epitaxy. Applied Physics Express, 2013, 6, 112601.	2.4	22
21	Strain-balanced type-II superlattices for efficient multi-junction solar cells. Scientific Reports, 2017, 7, 4012.	3.3	22
22	Determination of hypochlorite in waters by stopped-flow chemiluminescence spectrometry. Analytica Chimica Acta, 1990, 228, 123-128.	5.4	20
23	Influence of growth temperature on the structural and optical quality of GaInNAs/GaAs multi-quantum wells. Semiconductor Science and Technology, 2004, 19, 813-818.	2.0	20
24	Strong suppression of internal electric field in GaN/AlGaN multi-layer quantum dots in nanowires. Applied Physics Letters, 2011, 99, .	3.3	20
25	Thin GaAsSb capping layers for improved performance of InAs/GaAs quantum dot solar cells. Solar Energy Materials and Solar Cells, 2017, 159, 282-289.	6.2	20
26	Modelling of the Sb and N distribution in type II GaAsSb/GaAsN superlattices for solar cell applications. Applied Surface Science, 2018, 442, 664-672.	6.1	20
27	General route for the decomposition of InAs quantum dots during the capping process. Nanotechnology, 2016, 27, 125703.	2.6	19
28	Dislocation behavior in InGaAs stepâ€•and alternating stepâ€graded structures: Design rules for buffer fabrication. Applied Physics Letters, 1995, 67, 3632-3634.	3.3	18
29	Role of elastic anisotropy in the vertical alignment of In(Ga)As quantum dot superlattices. Applied Physics Letters, 2006, 88, 193118.	3.3	18
30	Impact of N on the atomic-scale Sb distribution in quaternary GaAsSbN-capped InAs quantum dots. Nanoscale Research Letters, 2012, 7, 653.	5.7	18
31	Sb and N Incorporation Interplay in GaAsSbN/GaAs Epilayers near Lattice-Matching Condition for 1.0â€"1.16-eV Photonic Applications. Nanoscale Research Letters, 2017, 12, 356.	5.7	18
32	Quantitative analysis of the interplay between InAs quantum dots and wetting layer during the GaAs capping process. Nanotechnology, 2017, 28, 425702.	2.6	18
33	Influence of Sb/N contents during the capping process on the morphology of InAs/GaAs quantum dots. Solar Energy Materials and Solar Cells, 2016, 145, 154-161.	6.2	17
34	Influence of substrate crystallography on the room temperature synthesis of AlN thin films by reactive sputtering. Applied Surface Science, 2011, 257, 9306-9313.	6.1	16
35	Imaging and Analysis by Transmission Electron Microscopy of the Spontaneous Formation of Al-Rich Shell Structure in Al$_{x}$Ga$_{1-x}$N/GaN Nanowires. Applied Physics Express, 2012, 5, 045002.	2.4	16
36	Bismuth concentration inhomogeneity in GaAsBi bulk and quantum well structures. Semiconductor Science and Technology, 2015, 30, 094018.	2.0	16

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37	Growth of ZnO nanowires through thermal oxidation of metallic zinc films on CdTe substrates. Journal of Alloys and Compounds, 2011, 509, 5400-5407.	5.5	15
38	Photoluminescence Enhancement of InAs(Bi) Quantum Dots by Bi Clustering. Applied Physics Express, 2013, 6, 042103.	2.4	15
39	Composition modulation in GaInNAs quantum wells: Comparison of experiment and theory. Journal of Applied Physics, 2005, 97, 073705.	2.5	14
40	Strain Relief Analysis of InN Quantum Dots Grown on GaN. Nanoscale Research Letters, 2007, 2, 442-6.	5.7	14
41	GaAsSb/GaAsN short-period superlattices as a capping layer for improved InAs quantum dot-based optoelectronics. Applied Physics Letters, 2014, 105, .	3.3	14
42	Open circuit voltage recovery in GaAsSbN-based solar cells: Role of deep N-related radiative states. Solar Energy Materials and Solar Cells, 2019, 200, 109949.	6.2	14
43	Modification of the optical and structural properties of ZnO nanowires by low-energy Ar+ ion sputtering. Nanoscale Research Letters, 2013, 8, 162.	5.7	13
44	Configuration of the misfit dislocation networks in uncapped and capped InN quantum dots. Applied Physics Letters, 2007, 91, 071915.	3.3	12
45	Strain Mapping at the Atomic Scale in Highly Mismatched Heterointerfaces. Advanced Functional Materials, 2007, 17, 2588-2593.	14.9	12
46	Capping layer growth rate and the optical and structural properties of GaAsSbN-capped InAs/GaAs quantum dots. Journal of Applied Physics, 2014, 116, .	2.5	12
47	Effect of annealing in the Sb and In distribution of type II GaAsSb-capped InAs quantum dots. Semiconductor Science and Technology, 2015, 30, 114006.	2.0	12
48	A work-hardening based model of the strain relief in multilayer graded-buffer structures. Applied Physics Letters, 1997, 71, 3099-3101.	3.3	11
49	Critical thickness for the saturation state of strain relaxation in the InGaAs/GaAs systems. Applied Physics Letters, 1998, 72, 1875-1877.	3.3	11
50	Growth rate and critical temperatures to avoid the modulation of composition of InGaAs epitaxial layers. Applied Physics Letters, 1999, 74, 2649-2651.	3.3	11
51	Effect of the growth parameters on the structure and morphology of InAs/InGaAs/GaAs DWELL quantum dot structures. Journal of Crystal Growth, 2005, 278, 151-155.	1.5	11
52	Onset of puberty and near adult height in short children born small for gestational age and treated with GH: Interim analysis of up to 10 years of treatment in Japan. Clinical Pediatric Endocrinology, 2015, 24, 15-25.	0.8	11
53	Impact of alloyed capping layers on the performance of InAs quantum dot solar cells. Solar Energy Materials and Solar Cells, 2016, 144, 128-135.	6.2	11
54	Compositional inhomogeneities in type-I and type-II superlattices for GaAsSbN-based solar cells: Effect of thermal annealing. Applied Surface Science, 2018, 459, 1-8.	6.1	11

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55	Step-graded buffer layer study of the strain relaxation by transmission electron microscopy. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 1994, 28, 497-501.	3.5	10
56	Work-hardening effects in the lattice relaxation of single layer heterostructures. Applied Physics Letters, 1997, 71, 2475-2477.	3.3	10
57	Strain interactions and defect formation in stacked InGaAs quantum dot and dot-in-well structures. Physica E: Low-Dimensional Systems and Nanostructures, 2005, 26, 245-251.	2.7	10
58	Electronic and photoconductive properties of ultrathin InGaN photodetectors. Journal of Applied Physics, 2008, 103, 073715.	2.5	10
59	Modelling of bismuth segregation in InAsBi/InAs superlattices: Determination of the exchange energies. Applied Surface Science, 2019, 485, 29-34.	6.1	10
60	Evaluation of different capping strategies in the InAs/GaAs QD system: Composition, size and QD density features. Applied Surface Science, 2021, 537, 148062.	6.1	10
61	Correlation between structural and electrical properties of InN thin films prepared by molecular beam epitaxy. Superlattices and Microstructures, 2006, 40, 289-294.	3.1	9
62	InN/In₂O₃ heterostructures. Physica Status Solidi C: Current Topics in Solid State Physics, 2008, 5, 1627-1629.	0.8	9
63	Strain mapping accuracy improvement using superâ€resolution techniques. Journal of Microscopy, 2016, 262, 50-58.	1.8	9
64	Diluted nitride type-II superlattices: Overcoming the difficulties of bulk GaAsSbN in solar cells. Solar Energy Materials and Solar Cells, 2020, 210, 110500.	6.2	9
65	Control of phase modulation in InGaAs epilayers. Applied Physics Letters, 2000, 76, 3236-3238.	3.3	8
66	Structural characterization of InN quantum dots grown by Metalorganic Vapour Phase Epitaxy. Physica Status Solidi C: Current Topics in Solid State Physics, 2006, 3, 1687-1690.	0.8	8
67	Structural changes during the natural aging process of InN quantum dots. Journal of Applied Physics, 2009, 105, 013527.	2.5	8
68	Suppressing the Effect of the Wetting Layer through AlAs Capping in InAs/GaAs QD Structures for Solar Cells Applications. Nanomaterials, 2022, 12, 1368.	4.1	8
69	Strain relaxation behavior of InxGa1âˆ’xAs quantum wells on vicinal GaAs (111)B substrates. Applied Physics Letters, 2002, 80, 1541-1543.	3.3	7
70	Effect of the AlAs capping layer thickness on the structure of InAs/GaAs QD. Applied Surface Science, 2022, 573, 151572.	6.1	7
71	Influence of interface dislocations on surface kinetics during epitaxial growth of InGaAs. Applied Surface Science, 1998, 123-124, 303-307.	6.1	6
72	Effect of indium content on the normal-incident photoresponse of InGaAs/GaAs quantum-well infrared photodetectors. Applied Physics Letters, 2001, 78, 2390-2392.	3.3	6

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73	Structural and optical properties of high In and N content GaInNAs quantum wells. Thin Solid Films, 2005, 483, 185-190.	1.8	6
74	Unfaulting of dislocation loops in the GaInNAs alloy: An estimation of the stacking fault energy. Journal of Applied Physics, 2005, 98, 023521.	2.5	6
75	Electron transport properties of indium oxide â€" indium nitride metalâ€oxideâ€semiconductor heterostructures. Physica Status Solidi C: Current Topics in Solid State Physics, 2008, 5, 495-498.	0.8	6
76	Evaluation of high-quality image reconstruction techniques applied to high-resolution Z-contrast imaging. Ultramicroscopy, 2017, 182, 283-291.	1.9	6
77	Effect of graded buffer design on the defect structure in InGaAs/GaAs (111)B heterostructures. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2001, 80, 27-31.	3.5	5
78	Critical barrier thickness for the formation of InGaAs/GaAs quantum dots. Materials Science and Engineering C, 2005, 25, 798-803.	7.3	5
79	An approach to the formation mechanism of the composition fluctuation in GaInNAs quantum wells. Semiconductor Science and Technology, 2005, 20, 1096-1102.	2.0	5
80	Phase mapping of aging process in InN nanostructures: oxygen incorporation and the role of the zinc blende phase. Nanotechnology, 2010, 21, 185706.	2.6	5
81	Nitrogen mapping from ADF imaging analysis in quaternary dilute nitride superlattices. Applied Surface Science, 2019, 475, 473-478.	6.1	5
82	Formation mechanisms of agglomerations in high-density InAs/GaAs quantum dot multi-layer structures. Applied Surface Science, 2020, 508, 145218.	6.1	5
83	CDrift: An Algorithm to Correct Linear Drift From A Single High-Resolution STEM Image. Microscopy and Microanalysis, 2020, 26, 913-920.	0.4	5
84	New relaxation mechanisms in InGaAs/GaAs (111) multiple quantum well. Microelectronics Journal, 1999, 30, 467-470.	2.0	4
85	Relaxation study of InxGa1â^'xAs/GaAs quantum-well structures grown by MBE on (001) and (111)B GaAs for long wavelength applications. Journal of Crystal Growth, 1999, 206, 287-293.	1.5	4
86	Structure of cubic polytype indium nitride layers on top of modified sapphire substrates. Physica Status Solidi C: Current Topics in Solid State Physics, 2008, 5, 514-517.	0.8	4
87	High Resolution HAADF-STEM Imaging Analysis of N related defects in GaNAs Quantum Wells. Microscopy and Microanalysis, 2008, 14, 318-319.	0.4	4
88	Inhibition of In desorption in diluted nitride InAsN quantum dots. Applied Physics Letters, 2011, 98, 071910.	3.3	4
89	Cathodoluminescence study of pyramidal facets in piezoelectric InGaAs/GaAs multiple quantum well pin photodiodes. Microelectronics Journal, 1999, 30, 427-431.	2.0	3
90	Optical properties of InxGa1â^'xAs/GaAs MQW structures on (111)B GaAs grown by MBE: dependence on substrate miscut. Journal of Crystal Growth, 1999, 201-202, 1085-1088.	1.5	3

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91	Influence of substrate misorientation on the structural characteristics of InGaAs/GaAs MQW on (111)B GaAs grown by MBE. Thin Solid Films, 1999, 343-344, 558-561.	1.8	3
92	Structural defects characterisation of GaInNAs MQWs by TEM and PL. IEE Proceedings: Optoelectronics, 2004, 151, 385-388.	0.8	3
93	Effect of island coalescence on structural and electrical properties of InN thin films. Journal of Crystal Growth, 2007, 300, 50-56.	1.5	3
94	Control of Nitrogen Inhomogeneities in Type-I and Type-II GaAsSbN Superlattices for Solar Cell Devices. Nanomaterials, 2019, 9, 623.	4.1	3
95	Role of Sb on the vertical-alignment of type-II strain-coupled InAs/GaAsSb multi quantum dots structures. Journal of Alloys and Compounds, 2020, 832, 154914.	5.5	3
96	Relaxation study of AlGaAs cladding layers in InGaAs/GaAs (111)B lasers designed for 1.0â€“1.1Î¼m operation. Microelectronics Journal, 2002, 33, 553-557.	2.0	2
97	Improvement in the optical quality of GaInNAs/GaInAs quantum well structures by interfacial strain reduction. IEE Proceedings: Optoelectronics, 2004, 151, 301-304.	0.8	2
98	Composition Modulation in Low Temperature Growth of InGaAs/GaAs System: Influence on Plastic Relaxation. Mikrochimica Acta, 2004, 145, 63-66.	5.0	2
99	Structural and Chemical Evolution of the Spontaneous Core-Shell Structures of AlxGa1-xN/GaN Nanowires. Microscopy and Microanalysis, 2014, 20, 1254-1261.	0.4	2
100	Stacked GaAs(Sb)(N)-capped InAs/GaAs quantum dots for enhanced solar cell efficiency. Proceedings of SPIE, 2015, , .	0.8	2
101	High-Resolution Electron Microscopy of Semiconductor Heterostructures and Nanostructures. Springer Series in Materials Science, 2012, , 23-62.	0.6	2
102	Transmission electron microscopy study of multilayer buffer structures used as dislocation filters. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 1994, 28, 515-519.	3.5	1
103	Advantages of thin interfaces in step-graded buffer structures. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 1997, 44, 41-45.	3.5	1
104	Influence of substrate misorientation on the optical and structural properties of InGaAs/GaAs single strained quantum wells grown on (111)B GaAs by molecular beam epitaxy. Microelectronics Journal, 1999, 30, 373-378.	2.0	1
105	Influence of structure and defects on the performance of dot-in-well laser structures. , 2005, , .		1
106	Characterization of structure and defects in dot-in-well laser structures. Materials Science and Engineering C, 2005, 25, 793-797.	7.3	1
107	Evaluation of the influence of GaN and AlN as pseudosubstrates on the crystalline quality of InN layers. Physica Status Solidi C: Current Topics in Solid State Physics, 2007, 4, 1454-1457.	0.8	1
108	Natural oxidation of InN quantum dots: the role of cubic InN. Physica Status Solidi C: Current Topics in Solid State Physics, 2010, 7, 9-12.	0.8	1

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109	ZnO micro/nanocrystals grown by laser assisted flow deposition. , 2014, , .		1
110	Correcting sample drift using Fourier harmonics. Micron, 2018, 110, 18-27.	2.2	1
111	Effect of capping rate on InAs/GaAs quantum dot solar cells. , 2019, , .		1
112	Effect of In-content on the misfit dislocation interaction in InGaAs/GaAs layers. Thin Solid Films, 1999, 343-344, 302-304.	1.8	0
113	The role of climb and glide in misfit relief of InGaAs/GaAs(111)B heterostructures. Microelectronics Journal, 2002, 33, 559-563.	2.0	0
114	Composition fluctuations in GaInNAs multi-quantum wells. IEE Proceedings: Optoelectronics, 2004, 151, 271-274.	0.8	0
115	Spinodal decomposition in GaInNAs/GaAs multi-quantum wells. Physica Status Solidi C: Current Topics in Solid State Physics, 2005, 2, 1292-1297.	0.8	0
116	Effect of the Growth Temperature in the Composition Fluctuation of GaInNAs/GaAs Quantum Wells. Microscopy and Microanalysis, 2006, 12, 754-755.	0.4	0
117	Z-contrast Imaging Analysis of Semiconductor Epitaxies: Application to GaNAs Quantum Wells and InAs/GaInAs/GaAs Dot in Well Structures. Microscopy and Microanalysis, 2007, 13, .	0.4	0
118	Kinetic considerations on the phase separation of GaInNAs quantum wells. Physica Status Solidi C: Current Topics in Solid State Physics, 2007, 4, 1477-1480.	0.8	0
119	Evaluation of the In desorption during the capping process of diluted nitride In(Ga)As quantum dots. Journal of Physics: Conference Series, 2011, 326, 012049.	0.4	0
120	(S)TEM Analysis of the Strain and Morphology of InAs Quantum Dots using GaAs(Sb)(N) Capping Layers for Solar Cell Applications. Microscopy and Microanalysis, 2016, 22, 46-47.	0.4	0
121	GaAsN/GaAsSb superlattices as 1 eV layers for efficient multi-junction solar cells. , 2018, , .		0
122	Topological Homogeneity for Electron Microscopy Images. Lecture Notes in Computer Science, 2019, , 166-178.	1.3	0
123	Espesores crÃticos de relajaciÃ³n en pozos cuÃ¡nticos de InGaAs/ GaAs sobre sustratos de GaAs (001) y (111)B. Boletin De La Sociedad Espanola De Ceramica Y Vidrio, 2000, 39, 482-486.	1.9	0
124	Estudio de capas de desacoplo de InGaAs/GaAs(001) por crecimiento combinado de MBE-ALMBE en forma dinÃ¡mica y escalonada. Boletin De La Sociedad Espanola De Ceramica Y Vidrio, 2004, 43, 373-375.	1.9	0
125	InhibiciÃ³n de la relajaciÃ³n plÃ¡stica en heteroestructuras InGaAs/GaAs(001) crecidas a baja temperatura. Boletin De La Sociedad Espanola De Ceramica Y Vidrio, 2004, 43, 376-378.	1.9	0
126	Transmission Electron Microscopy of 1D-Nanostructures. , 2014, , 657-701.		0

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127	Strain relaxation behaviour in InxGa1-xAs quantum wells on misorientated GaAs (111)B substrates. , 2018, , 137-140.		0
128	Characterization of InGaAs (N)/GaAsN multi-quantum wells using transmission electron microscopy. , 2018, , 143-146.		0
129	Barrier thickness influence on plastic relaxation in (111)B misoriented InGaAs/GaAs double quantum wells. , 2018, , 133-136.		0
130	Defect generation in high In and N content GaInNAs quantum wells: unfaulting of Frank dislocation loops. , 2005, , 139-142.		0
131	Vertical correlation-anticorrelation transition in InAs/GaAs quantum dot structures grown by molecular beam epitaxy. , 0, , 251-254.		0
132	Effect of annealing on anticorrelated InGaAs/GaAs quantum dots. , 0, , 255-258.		0
133	Activation energy for surface diffusion in GaInNAs quantum wells. , 0, , 279-282.		0
134	Influence of the Growth Temperature on the Composition Fluctuations of GaInNAs/GaAs Quantum Wells. , 2008, , 199-221.		0
135	Study of microstructure and strain relaxation on thin InXGa1â^'xN epilayers with medium and high In contents. , 2008, , 77-78.		0