Ignacio MÃ¡rtil

List of Publications by Year
in descending order

118 papers	2,459 citations	185998 28 h-index	253896 43 g-index
118 all docs	118 docs citations	118 times ranked	1955 citing authors

#	Article	IF	Citations
1	Optical properties and structure of HfO₂thin films grown by high pressure reactive sputtering. Journal Physics D: Applied Physics, 2007, 40, 5256-5265.	1.3	156
2	Lifetime recovery in ultrahighly titanium-doped silicon for the implementation of an intermediate band material. Applied Physics Letters, 2009, 94, .	1.5	119
3	Rapid thermal annealing effects on the structural properties and density of defects in SiO2 and SiNx:H films deposited by electron cyclotron resonance. Journal of Applied Physics, 2000, 87, 1187-1192.	1.1	84
4	Optical-constant calculation of non-uniform thickness thin films of the Ge10As15Se75 chalcogenide glassy alloy in the sub-band-gap region (0.1â€“1.8eV). Materials Chemistry and Physics, 1999, 60, 231-239.	2.0	83
5	A comparative study of the electrical properties of TiO2films grown by high-pressure reactive sputtering and atomic layer deposition. Semiconductor Science and Technology, 2005, 20, 1044-1051.	1.0	79
6	Influence of defects on the electrical and optical characteristics of blue light-emitting diodes based on IIIâ€“V nitrides. Journal of Applied Physics, 1997, 81, 2442-2444.	1.1	72
7	Titanium doped silicon layers with very high concentration. Journal of Applied Physics, 2008, 104, 016105.	1.1	70
8	Sub-bandgap absorption in Ti implanted Si over the Mott limit. Journal of Applied Physics, 2011, 109, .	1.1	53
9	High quality Ti-implanted Si layers above the Mott limit. Journal of Applied Physics, 2010, 107, .	1.1	51
10	Intermediate band mobility in heavily titanium-doped silicon layers. Solar Energy Materials and Solar Cells, 2009, 93, 1668-1673.	3.0	49
11	Room-temperature operation of a titanium supersaturated silicon-based infrared photodetector. Applied Physics Letters, 2014, 104, .	1.5	49
12	Deposition of SiNx:H thin films by the electron cyclotron resonance and its application to Al/SiNx:H/Si structures. Journal of Applied Physics, 1998, 83, 332-338.	1.1	48
13	Experimental observation of conductance transients in Al/SiNx:H/Si metal-insulator-semiconductor structures. Applied Physics Letters, 1997, 71, 826-828.	1.5	45
14	Isotopic study of the nitrogen-related modes in N+-implanted ZnO. Applied Physics Letters, 2007, 90, 181911.	1.5	45
15	Influence of rapid thermal annealing processes on the properties of SiN :H films deposited by the electron cyclotron resonance method. Journal of Non-Crystalline Solids, 1998, 227-230, 523-527.	1.5	41
16	Physical properties of high pressure reactively sputtered TiO2. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2005, 23, 1523-1530.	0.9	41
17	Composition and optical properties of silicon oxynitride films deposited by electron cyclotron resonance. Vacuum, 2002, 67, 507-512.	1.6	40
18	Two-layer Hall effect model for intermediate band Ti-implanted silicon. Journal of Applied Physics, 2011, 109, .	1.1	40

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19	Molecular models and activation energies for bonding rearrangement in plasma-depositedaâ˜SiNx:Hdielectric thin films treated by rapid thermal annealing. Physical Review B, 2001, 63, .	1.1	38
20	Electronic transport properties of Ti-impurity band in Si. Journal Physics D: Applied Physics, 2009, 42, 085110.	1.3	37
21	CuInSe2thin films produced by rf sputtering in Ar/H2atmospheres. Journal of Applied Physics, 1987, 62, 4163-4169.	1.1	35
22	Bonding configuration and density of defects of SiO[sub x]H[sub y] thin films deposited by the electron cyclotron resonance plasma method. Journal of Applied Physics, 2003, 94, 7462.	1.1	35
23	Sub-bandgap spectral photo-response analysis of Ti supersaturated Si. Applied Physics Letters, 2012, 101, .	1.5	35
24	Hafnium oxide thin films deposited by high pressure reactive sputtering in atmosphere formed with different Ar/O2 ratios. Materials Science in Semiconductor Processing, 2006, 9, 1020-1024.	1.9	33
25	High-pressure reactively sputtered HfO2: Composition, morphology, and optical properties. Journal of Applied Physics, 2007, 102, .	1.1	33
26	Far infrared photoconductivity in a silicon based material: Vanadium supersaturated silicon. Applied Physics Letters, 2013, 103, 032101.	1.5	32
27	Deposition dependence of r.f.-sputtered CdS films. Thin Solid Films, 1982, 90, 253-257.	0.8	31
28	Full composition range silicon oxynitride films deposited by ECR-PECVD at room temperature. Thin Solid Films, 1999, 343-344, 437-440.	0.8	30
29	Temperature and bias effects on the electrical properties of CdS thin films prepared by r.f. sputtering. Thin Solid Films, 1984, 114, 327-334.	0.8	29
30	Bonding structure and hydrogen content in silicon nitride thin films deposited by the electron cyclotron resonance plasma method. Thin Solid Films, 2004, 459, 203-207.	0.8	27
31	Interface quality study of ECR-deposited and rapid thermal annealed silicon nitride Al/SiNx:H/InP and Al/SiNx:H/In0.53Ga0.47As structures by DLTS and conductance transient techniques. Microelectronics Reliability, 2000, 40, 845-848.	0.9	26
32	Influence of interlayer trapping and detrapping mechanisms on the electrical characterization of hafnium oxide/silicon nitride stacks on silicon. Journal of Applied Physics, 2008, 104, .	1.1	25
33	Properties of a-SiN_x.: H films deposited at room temperature by the electron cyclotron resonance plasma method. The Philosophical Magazine: Physics of Condensed Matter B, Statistical Mechanics, Electronic, Optical and Magnetic Properties, 1996, 73, 487-502.	0.6	24
34	Effect of interlayer trapping and detrapping on the determination of interface state densities on high-k dielectric stacks. Journal of Applied Physics, 2010, 107, .	1.1	24
35	Structural, electrical, and optical properties of CuGaSe2rf sputtered thin films. Journal of Applied Physics, 1990, 68, 189-194.	1.1	23
36	Heat treatment of rf sputtered CdS films for solar cell applications. Solar Energy Materials and Solar Cells, 1985, 12, 345-352.	0.4	22

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37	Thermally induced changes in the optical properties of SiNx:H films deposited by the electron cyclotron resonance plasma method. Journal of Applied Physics, 1999, 86, 2055-2061.	1.1	22
38	Defect structure of SiNx:H films and its evolution with annealing temperature. Journal of Applied Physics, 2000, 88, 2149-2151.	1.1	21
39	Optical and structural properties of SiOxNyHz films deposited by electron cyclotron resonance and their correlation with composition. Journal of Applied Physics, 2003, 93, 8930-8938.	1.1	21
40	Undergraduate laboratory experiment: Measurement of the complex refractive index and the band gap of a thin film semiconductor. American Journal of Physics, 1992, 60, 83-86.	0.3	20
41	Thermally induced modifications on bonding configuration and density of defects of plasma deposited SiOx:H films. Journal of Applied Physics, 2002, 92, 1906-1913.	1.1	19
42	Low temperature intermediate band metallic behavior in Ti implanted Si. Thin Solid Films, 2012, 520, 6614-6618.	0.8	18
43	Role of defects in the annealing behaviour of RF sputtered CdS films. Physica Status Solidi A, 1986, 94, 587-593.	1.7	17
44	Role of oxygen on the dangling bond configuration of low oxygen content SiNx:H films deposited at room temperature. Applied Physics Letters, 1995, 67, 3263-3265.	1.5	17
45	Optical spectroscopic study of the SiNâˆ•HfO2 interfacial formation during rf sputtering of HfO2. Applied Physics Letters, 2007, 91, .	1.5	17
46	UV and visible Raman scattering of ultraheavily Ti implanted Si layers for intermediate band formation. Semiconductor Science and Technology, 2011, 26, 115003.	1.0	17
47	Interstitial Ti for intermediate band formation in Ti-supersaturated silicon. Journal of Applied Physics, 2012, 112, .	1.1	17
48	Ruling out the impact of defects on the below band gap photoconductivity of Ti supersaturated Si. Journal of Applied Physics, 2013, 114, 053110.	1.1	17
49	Electrical properties of high-pressure reactive sputtered thin hafnium oxide high-kgate dielectrics. Semiconductor Science and Technology, 2007, 22, 1344-1351.	1.0	16
50	Sub-Bandgap External Quantum Efficiency in Ti Implanted Si Heterojunction with Intrinsic Thin Layer Cells. Japanese Journal of Applied Physics, 2013, 52, 122302.	0.8	16
51	Good quality Al/SiNx:H/InP metal-insulator-semiconductor devices obtained with electron cyclotron resonance plasma method. Journal of Applied Physics, 1998, 83, 600-603.	1.1	15
52	Effect of substrate temperature in SiOxNy films deposited by electron cyclotron resonance. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1999, 17, 1263-1268.	0.9	15
53	Temperature effects on the electrical properties and structure of interfacial and bulk defects in Al/SiNx:H/Si devices. Journal of Applied Physics, 2001, 90, 1573-1581.	1.1	15
54	Capacitance characterisation of Cu2S/CdS heterojunctions. Semiconductor Science and Technology, 1988, 3, 781-785.	1.0	14

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55	Rapid thermally annealed plasma deposited SiNx:H thin films: Application to metalâ€“insulatorâ€“semiconductor structures with Si, In0.53Ga0.47As, and InP. Journal of Applied Physics, 2003, 94, 2642-2653.	1.1	14
56	Compositional analysis of thin SiOxNy:H films by heavy-ion ERDA, standard RBS, EDX and AES: a comparison. Nuclear Instruments & Methods in Physics Research B, 2004, 217, 237-245.	0.6	14
57	Laser thermal annealing effects on single crystal gallium phosphide. Journal of Applied Physics, 2009, 106, .	1.1	14
58	Thermal stability of intermediate band behavior in Ti implanted Si. Solar Energy Materials and Solar Cells, 2010, 94, 1907-1911.	3.0	14
59	Role of deep levels and interface states in the capacitance characteristics of allâ€sputtered CuInSe2/CdS solar cell heterojunctions. Journal of Applied Physics, 1989, 65, 3236-3241.	1.1	13
60	Depth profile study of Ti implanted Si at very high doses. Journal of Applied Physics, 2011, 110, .	1.1	13
61	The influence of film properties on the electrical characteristics of metal - insulator - semiconductor devices. Semiconductor Science and Technology, 1997, 12, 1650-1653.	1.0	12
62	Low interface trap density in rapid thermally annealed Al/SiNx:H/InP metalâ€“insulatorâ€“semiconductor devices. Applied Physics Letters, 1999, 74, 991-993.	1.5	12
63	Thermally induced improvements on SiNx:H/InP devices. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1999, 17, 2178-2182.	0.9	12
64	On the Optoelectronic Mechanisms Ruling Tiâ€hyperdoped Si Photodiodes. Advanced Electronic Materials, 2022, 8, .	2.6	12
65	Chalcopyrite CuGaxIn1â^'xSe2semiconducting thin films produced by radio frequency sputtering. Applied Physics Letters, 1992, 60, 1875-1877.	1.5	11
66	Influence of the deposition parameters on the bonding and optical properties of SiNx ECR films. Journal of Non-Crystalline Solids, 1995, 187, 329-333.	1.5	11
67	Fabrication and characterisation of thin low-temperature MBE-compatible silicon oxides of different stoichiometry. Thin Solid Films, 1999, 349, 135-146.	0.8	11
68	Physical properties of plasma deposited SiOx thin films. Vacuum, 2002, 67, 525-529.	1.6	11
69	Physical properties of high pressure reactively sputtered hafnium oxide. Vacuum, 2008, 82, 1391-1394.	1.6	11
70	Optical spectroscopic study of the growth dynamics of radioâ€frequencyâ€sputtered YBa2Cu3O7â^'xthin films. Applied Physics Letters, 1992, 61, 231-233.	1.5	10
71	Electrical and optical characterization of Mg, Mg/P, and Mg/Ar implants into InP:Fe. Journal of Electronic Materials, 1995, 24, 59-67.	1.0	10
72	Deepâ€level transient spectroscopy and electrical characterization of ionâ€implantedpâ€njunctions into undoped InP. Journal of Applied Physics, 1995, 78, 5325-5330.	1.1	10

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73	Influence of electron cyclotron resonance nitrogen plasma exposure on the electrical characteristics of SiN[sub x]:H/InP structures. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2001, 19, 186.	1.6	10
74	Rapid thermal annealing effects on plasma deposited SiOx:H films. Vacuum, 2002, 67, 531-536.	1.6	10
75	Evidence of phosphorus incorporation into InGaAs/InP epilayers after thermal annealing. Journal of Applied Physics, 2003, 93, 9019-9023.	1.1	10
76	Electrical decoupling effect on intermediate band Ti-implanted silicon layers. Journal Physics D: Applied Physics, 2013, 46, 135108.	1.3	10
77	Thin CuxS sputtered films in Ar/H2 atmospheres. Vacuum, 1987, 37, 437-439.	1.6	9
78	Stoichiometry control over a wide composition range of sputtered CuGaxIn(1â^'x)Se2. Applied Physics Letters, 1994, 64, 1239-1241.	1.5	9
79	A laboratory experiment with blue light-emitting diodes. American Journal of Physics, 1997, 65, 371-376.	0.3	9
80	Microstructural modifications induced by rapid thermal annealing in plasma deposited SiOxNyHz films. Journal of Applied Physics, 2003, 94, 1019-1029.	1.1	9
81	Rapid thermal annealing effects on the electrical behavior of plasma oxidized silicon/silicon nitride stacks gate insulators. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2003, 21, 1306.	1.6	9
82	Electrical properties of rapid thermally annealed SiNx:H/Si structures characterized by capacitance-voltage and surface photovoltage spectroscopy. Semiconductor Science and Technology, 2001, 16, 534-542.	1.0	8
83	Compositional analysis of SiOxNy:H films by heavy-ion ERDA: the problem of radiation damage. Surface and Interface Analysis, 2002, 34, 749-753.	0.8	8
84	Meyer Neldel rule application to silicon supersaturated with transition metals. Journal Physics D: Applied Physics, 2015, 48, 075102.	1.3	8
85	Electrical Characterization of Al/SiNx:H/n and p-In0.53Ga0.47As Structures by Deep-Level Transient Spectroscopy and Conductance Transient Techniques. Japanese Journal of Applied Physics, 2001, 40, 4479-4484.	0.8	7
86	Oxygen to silicon ratio determination of SiOxHy thin films. Thin Solid Films, 2005, 492, 232-235.	0.8	7
87	Growth and physical properties of CuGaSe2 thin films by r.f. sputtering. Journal of Materials Science Letters, 1990, 9, 237-240.	0.5	6
88	Electrical characterization of all-sputtered CdS/CuInSe2 solar cell heterojunctions. Solar Cells, 1990, 28, 31-39.	0.6	6
89	Deposition of low temperature Si-based insulators by the electron cyclotron resonance plasma method. Thin Solid Films, 1998, 317, 116-119.	0.8	6
90	Electrical Characterization of Low Nitrogen Content Plasma Deposited and Rapid Thermal Annealed Al/SiNx:H/InP Metal-Insulator-Semiconductor Structures. Japanese Journal of Applied Physics, 2000, 39, 6212-6215.	0.8	6

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91	Improvement of SiNx:H/InP gate structures for the fabrication of metalÂinsulatorÂsemiconductor field-effect transistors. Semiconductor Science and Technology, 2002, 17, 672-676.	1.0	6
92	Optical characterization of silicon nitride films deposited by ECR-CVD. Vacuum, 1994, 45, 1027-1028.	1.6	5
93	Double Ion Implantation and Pulsed Laser Melting Processes for Third Generation Solar Cells. International Journal of Photoenergy, 2013, 2013, 1-7.	1.4	5
94	Sputtering process of Cu2S in an Ar atmosphere. Vacuum, 1987, 37, 433-436.	1.6	4
95	Influence of interface states on the electrical characteristics of all-sputtered solar cells. Solar Energy Materials and Solar Cells, 1988, 17, 279-287.	0.4	4
96	Dependence of the physical properties of SiNx:H films deposited by the ECR plasma method on the discharge size. Thin Solid Films, 1998, 315, 22-28.	0.8	4
97	Title is missing!. Journal of Materials Science: Materials in Electronics, 2001, 12, 263-267.	1.1	4
98	Interfacial State Density and Conductance-Transient Three-Dimensional Profiling of Disordered-Induced Gap States on Metal Insulator Semiconductor Capacitors Fabricated from Electron-Cyclotron Resonance Plasma-Enhanced Chemical Vapor Deposited SiOxNyHzFilms. Japanese Journal of Applied Physics, 2003, 42, 4978-4981.	0.8	4
99	Compositional analysis of polycrystalline hafnium oxide thin films by heavy-ion elastic recoil detection analysis. Thin Solid Films, 2006, 515, 695-699.	0.8	4
100	Ion implantation and pulsed laser melting processing for the development of an intermediate band material. AIP Conference Proceedings, 2012, , .	0.3	4
101	Ion Implant Technology for Intermediate Band Solar Cells. Springer Series in Optical Sciences, 2012, , 321-346.	0.5	4
102	Substrate temperature effect on the optical properties of radioâ€frequency sputtered CuInSe2 thin films. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1989, 7, 1424-1427.	0.9	3
103	DC characterization of fully ion-implanted p-n junctions into semi-insulating InP. IEEE Transactions on Electron Devices, 1996, 43, 396-401.	1.6	3
104	Gate quality of ex situ deposited Al/SiNx:H/n-In0.53Ga0.47As devices after rapid thermal annealing. Semiconductor Science and Technology, 1999, 14, 628-631.	1.0	3
105	Title is missing!. Journal of Materials Science: Materials in Electronics, 1999, 10, 373-377.	1.1	3
106	Comparison between n-type and p-type Al/SiNx:H/In0.53Ga0.47As devices deposited by electron cyclotron resonance technique. Semiconductor Science and Technology, 2000, 15, 823-828.	1.0	3
107	High-quality Si-implanted In0.53Ga0.47As epitaxial layers and their application to n+p junction devices. Journal of Applied Physics, 2000, 87, 3478-3482.	1.1	3
108	Optical absorption in amorphous hydrogenated silicon nitride thin films deposited by the electron cyclotron resonance plasma method and subjected to rapid thermal annealing. Thin Solid Films, 1999, 343-344, 433-436.	0.8	2

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109	A comparative study of anodic tantalum pentoxide and high-pressure sputtered titanium oxide. Journal of Materials Science: Materials in Electronics, 2003, 14, 375-378.	1.1	2
110	Influence of H on the composition and atomic concentrations of â€œN-richâ€•plasma deposited SiOxNyHz films. Journal of Applied Physics, 2004, 95, 5373-5382.	1.1	2
111	Effects of argon partial pressure and hydrogen admixtures on the properties of sputtered CuInSe2 thin films. Applied Surface Science, 1988, 33-34, 844-853.	3.1	1
112	Emission line intensities in an r.f. sputtering glow discharge system. Thin Solid Films, 1993, 228, 133-136.	0.8	1
113	Experimental verification of the physics and structure of the bipolar junction transistor. IEEE Transactions on Education, 1998, 41, 224-228.	2.0	1
114	N2 remote plasma cleaning of InP to improve SiNx:H/InP interface performance. Microelectronics Reliability, 2000, 40, 837-840.	0.9	1
115	Title is missing!. Journal of Materials Science: Materials in Electronics, 2003, 14, 287-290.	1.1	1
116	Conductance Transient Comparative Analysis of Electron-Cyclotron Resonance Plasma-Enhanced Chemical Vapor Deposited SiNx, SiO2/SiNxand SiOxNyDielectric Films on Silicon Substrates. Japanese Journal of Applied Physics, 2004, 43, 66-70.	0.8	1
117	On the influence of substrate cleaning method and rapid thermal annealing conditions on the electrical characteristics of Al/SiNx/SiO2/Si fabricated by ECR-CVD. Microelectronics Reliability, 2005, 45, 978-981.	0.9	1
118	MICRO-RAMAN STUDY OF SURFACE ALTERATIONS IN InGaAs AFTER THERMAL ANNEALING TREATMENTS. International Journal of Modern Physics B, 2002, 16, 4401-4404.	1.0	0