Pere Roca I Cabarrocas

List of Publications by Year
in descending order

362 papers	8,846 citations	44069 48 h-index	85541 71 g-index
363 all docs	363 docs citations	363 times ranked	4772 citing authors

#	Article	IF	Citations
1	A fully automated hotâ€wall multiplasmaâ€monochamber reactor for thin film deposition. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1991, 9, 2331-2341.	2.1	226
2	Plasma enhanced chemical vapor deposition of amorphous, polymorphous and microcrystalline silicon films. Journal of Non-Crystalline Solids, 2000, 266-269, 31-37.	3.1	184
3	Structure and hydrogen content of polymorphous silicon thin films studied by spectroscopic ellipsometry and nuclear measurements. Physical Review B, 2004, 69, .	3.2	159
4	Substrate selectivity in the formation of microcrystalline silicon: Mechanisms and technological consequences. Applied Physics Letters, 1995, 66, 3609-3611.	3.3	149
5	Influence of Cu as a catalyst on the properties of silicon nanowires synthesized by the vapourâ€“solidâ€“solid mechanism. Nanotechnology, 2007, 18, 305606.	2.6	144
6	Real-time spectroscopic ellipsometry study of the growth of amorphous and microcrystalline silicon thin films prepared by alternating silicon deposition and hydrogen plasma treatment. Physical Review B, 1995, 52, 5136-5143.	3.2	130
7	Growth and optoelectronic properties of polymorphous silicon thin films. Thin Solid Films, 2002, 403-404, 39-46.	1.8	124
8	Ion bombardment effects on microcrystalline silicon growth mechanisms and on the film properties. Journal of Applied Physics, 2003, 93, 1262-1273.	2.5	114
9	a-Si:H Deposition from SiH4and Si2H6rf-Discharges: Pressure and Temperature Dependence of Film Growth in Relation to Î±-Î³ Discharge Transition. Japanese Journal of Applied Physics, 1988, 27, 2041-2052.	1.5	110
10	Plasma-enhanced low temperature growth of silicon nanowires and hierarchical structures by using tin and indium catalysts. Nanotechnology, 2009, 20, 225604.	2.6	110
11	High efficiency and stable hydrogenated amorphous silicon radial junction solar cells built on VLS-grown silicon nanowires. Solar Energy Materials and Solar Cells, 2013, 118, 90-95.	6.2	107
12	Plasma texturing for silicon solar cells: From pyramids to inverted pyramids-like structures. Solar Energy Materials and Solar Cells, 2010, 94, 733-737.	6.2	99
13	Midgap density of states in hydrogenated polymorphous silicon. Journal of Applied Physics, 1999, 86, 946-950.	2.5	96
14	Contribution of ions to the growth of amorphous, polymorphous, and microcrystalline silicon thin films. Journal of Applied Physics, 2000, 88, 3674-3688.	2.5	93
15	Incorporation and redistribution of impurities into silicon nanowires during metal-particle-assisted growth. Nature Communications, 2014, 5, 4134.	12.8	91
16	Influence of the (111) twinning on the formation of diamond cubic/diamond hexagonal heterostructures in Cu-catalyzed Si nanowires. Journal of Applied Physics, 2008, 104, .	2.5	86
17	Insituinvestigation of the growth of rf glowâ€discharge deposited amorphous germanium and silicon films. Journal of Applied Physics, 1987, 61, 2501-2508.	2.5	84
18	Stable microcrystalline silicon thin-film transistors produced by the layer-by-layer technique. Journal of Applied Physics, 1999, 86, 7079-7082.	2.5	82

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19	In situ generation of indium catalysts to grow crystalline silicon nanowires at low temperature on ITO. Journal of Materials Chemistry, 2008, 18, 5187.	6.7	81
20	Ultrathin Epitaxial Silicon Solar Cells with Inverted Nanopyramid Arrays for Efficient Light Trapping. Nano Letters, 2016, 16, 5358-5364.	9.1	78
21	Bismuth-Catalyzed and Doped Silicon Nanowires for One-Pump-Down Fabrication of Radial Junction Solar Cells. Nano Letters, 2012, 12, 4153-4158.	9.1	76
22	Atomic structure of the nanocrystalline Si particles appearing in nanostructured Si thin films produced in low-temperature radiofrequency plasmas. Journal of Applied Physics, 2002, 92, 4684-4694.	2.5	74
23	Plasma production of nanocrystalline silicon particles and polymorphous silicon thin films for large-area electronic devices. Pure and Applied Chemistry, 2002, 74, 359-367.	1.9	74
24	A review on plasma-assisted VLS synthesis of silicon nanowires and radial junction solar cells. Journal Physics D: Applied Physics, 2014, 47, 393001.	2.8	73
25	Insituinvestigation of the optoelectronic properties of transparent conducting oxide/amorphous silicon interfaces. Applied Physics Letters, 1989, 54, 2088-2090.	3.3	72
26	Synthesis of silicon nanocrystals in silane plasmas for nanoelectronics and large area electronic devices. Journal Physics D: Applied Physics, 2007, 40, 2258-2266.	2.8	72
27	Polymorphous silicon thin films produced in dusty plasmas: application to solar cells. Plasma Physics and Controlled Fusion, 2004, 46, B235-B243.	2.1	71
28	Shedding light on the growth of amorphous, polymorphous, protocrystalline and microcrystalline silicon thin films. Thin Solid Films, 2001, 383, 161-164.	1.8	69
29	Observation of Incubation Times in the Nucleation of Silicon Nanowires Obtained by the Vapor-Liquid-Solid Method. Japanese Journal of Applied Physics, 2006, 45, L190-L193.	1.5	68
30	An In-Plane Solid-Liquid-Solid Growth Mode for Self-Avoiding Lateral Silicon Nanowires. Physical Review Letters, 2009, 102, 125501.	7.8	68
31	Gallium assisted plasma enhanced chemical vapor deposition of silicon nanowires. Nanotechnology, 2009, 20, 155602.	2.6	68
32	Determination of the conduction band offset between hydrogenated amorphous silicon and crystalline silicon from surface inversion layer conductance measurements. Applied Physics Letters, 2008, 92, 162101.	3.3	67
33	Role of mobile hydrogen in the amorphous silicon recrystallization. Applied Physics Letters, 1995, 66, 3146-3148.	3.3	62
34	Plasma enhanced chemical vapor deposition of silicon thin films for large area electronics. Current Opinion in Solid State and Materials Science, 2002, 6, 439-444.	11.5	62
35	In situcorrelation between the optical and electrical properties of thin intrinsic and n-type microcrystalline silicon films. Journal of Applied Physics, 1997, 81, 7282-7288.	2.5	61
36	Numerical modeling of capacitively coupled hydrogen plasmas: Effects of frequency and pressure. Journal of Applied Physics, 2003, 93, 3198-3206.	2.5	60

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37	Effect of Wettability on the Agglomeration of Silicon Nanowire Arrays Fabricated by Metal-Assisted Chemical Etching. Langmuir, 2014, 30, 10290-10298.	3.5	60
38	Photonic nanostructures for advanced light trapping in thin crystalline silicon solar cells. Physica Status Solidi (A) Applications and Materials Science, 2015, 212, 140-155.	1.8	57
39	Absorbing photonic crystals for silicon thin-film solar cells: Design, fabrication and experimental investigation. Solar Energy Materials and Solar Cells, 2011, 95, S32-S38.	6.2	56
40	Very low densities of localized states at the Fermi level in hydrogenated polymorphous silicon from capacitance and space-charge-limited current measurements. Applied Physics Letters, 1999, 75, 3351-3353.	3.3	55
41	Low-temperature growth of thick intrinsic and ultrathin phosphorous or boron-doped microcrystalline silicon films: Optimum crystalline fractions for solar cell applications. Solar Energy Materials and Solar Cells, 2001, 69, 217-239.	6.2	55
42	Growth mechanism and dynamics of in-plane solid-liquid-solid silicon nanowires. Physical Review B, 2010, 81, .	3.2	54
43	In situ investigation of polymorphous silicon deposition. Journal of Non-Crystalline Solids, 2000, 266-269, 48-53.	3.1	50
44	Synthesis, morphology and compositional evolution of silicon nanowires directly grown on SnO2substrates. Nanotechnology, 2008, 19, 485605.	2.6	50
45	New features of the layerâ€byâ€layer deposition of microcrystalline silicon films revealed by spectroscopic ellipsometry and high resolution transmission electron microscopy. Applied Physics Letters, 1996, 69, 529-531.	3.3	49
46	Measurement of the in-depth stress profile in hydrogenated microcrystalline silicon thin films using Raman spectrometry. Journal of Applied Physics, 2001, 90, 3276-3279.	2.5	49
47	Growth study of indium-catalyzed silicon nanowires by plasma enhanced chemical vapor deposition. Applied Physics A: Materials Science and Processing, 2010, 100, 287-296.	2.3	49
48	Engineering island-chain silicon nanowires via a droplet mediated Plateau-Rayleigh transformation. Nature Communications, 2016, 7, 12836.	12.8	49
49	Hydrogen-effusion-induced structural changes and defects ina-Si:H films: Dependence upon the film microstructure. Physical Review B, 1996, 53, 3804-3812.	3.2	48
50	Effects of ion energy on the crystal size and hydrogen bonding in plasma-deposited nanocrystalline silicon thin films. Journal of Applied Physics, 2005, 97, 104334.	2.5	48
51	Some electronic and metastability properties of a new nanostructured material: Hydrogenated polymorphous silicon. The Philosophical Magazine: Physics of Condensed Matter B, Statistical Mechanics, Electronic, Optical and Magnetic Properties, 1999, 79, 1079-1095.	0.6	47
52	Soft landing of silicon nanocrystals in plasma enhanced chemical vapor deposition. Applied Physics Letters, 2006, 88, 203111.	3.3	47
53	Silicon nanowire solar cells grown by PECVD. Journal of Non-Crystalline Solids, 2012, 358, 2299-2302.	3.1	47
54	Optoelectronic properties of hydrogenated amorphous silicon films deposited under negative substrate bias. Journal of Applied Physics, 1991, 69, 2942-2950.	2.5	46

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55	Analysis and optimization of the performance of polymorphous silicon solar cells: Experimental characterization and computer modeling. Journal of Applied Physics, 2003, 94, 7305-7316.	2.5	46
56	Defect Formation in Ga-Catalyzed Silicon Nanowires. Crystal Growth and Design, 2010, 10, 1534-1543.	3.0	46
57	Nanopatterned front contact for broadband absorption in ultra-thin amorphous silicon solar cells. Applied Physics Letters, 2012, 101, 163901.	3.3	46
58	Dependence of the saturated lightâ€induced defect density on macroscopic properties of hydrogenated amorphous silicon. Applied Physics Letters, 1990, 57, 1440-1442.	3.3	45
59	New approaches for the production of nano-, micro-, and polycrystalline silicon thin films. Physica Status Solidi C: Current Topics in Solid State Physics, 2004, 1, 1115-1130.	0.8	44
60	Wetting Layer: The Key Player in Plasma-Assisted Silicon Nanowire Growth Mediated by Tin. Journal of Physical Chemistry C, 2013, 117, 17786-17790.	3.1	44
61	A comparative study of wet and dry texturing processes of c-Si wafers for the fabrication of solar cells. Solar Energy, 2014, 101, 182-191.	6.1	44
62	Understanding Light Harvesting in Radial Junction Amorphous Silicon Thin Film Solar Cells. Scientific Reports, 2015, 4, 4357.	3.3	44
63	Dangling-bond defect state creation in microcrystalline silicon thin-film transistors. Applied Physics Letters, 2000, 77, 750-752.	3.3	43
64	Initial nucleation and growth of in-plane solid-liquid-solid silicon nanowires catalyzed by indium. Physical Review B, 2009, 80, .	3.2	43
65	All-in-situ fabrication and characterization of silicon nanowires on TCO/glass substrates for photovoltaic application. Solar Energy Materials and Solar Cells, 2010, 94, 1855-1859.	6.2	43
66	Determination of the mobility gap of microcrystalline silicon and of the band discontinuities at the amorphous/microcrystalline silicon interface using in situ Kelvin probe technique. Applied Physics Letters, 1999, 74, 3218-3220.	3.3	42
67	Radial junction amorphous silicon solar cells on PECVD-grown silicon nanowires. Nanotechnology, 2012, 23, 194011.	2.6	42
68	Deterministic Line-Shape Programming of Silicon Nanowires for Extremely Stretchable Springs and Electronics. Nano Letters, 2017, 17, 7638-7646.	9.1	41
69	Investigation of coupling between chemistry and discharge dynamics in radio frequency hydrogen plasmas in the Torr regime. Journal Physics D: Applied Physics, 2004, 37, 1765-1773.	2.8	40
70	Hybrid solar cells based on thin-film silicon and P3HT. EPJ Applied Physics, 2006, 36, 231-234.	0.7	39
71	Core-shell structure and unique faceting of Sn-catalyzed silicon nanowires. Applied Physics Letters, 2010, 97, 023107.	3.3	39
72	Hydrogen-plasma etching of hydrogenated amorphous silicon: a study by a combination of spectroscopic ellipsometry and trap-limited diffusion model. Philosophical Magazine, 2004, 84, 595-609.	1.6	38

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73	Hydrogen diffusion and induced-crystallization in intrinsic and doped hydrogenated amorphous silicon films. Thin Solid Films, 2005, 487, 126-131.	1.8	38
74	Growth-in-place deployment of in-plane silicon nanowires. Applied Physics Letters, 2011, 99, .	3.3	38
75	Observation by infrared transmission spectroscopy and infrared ellipsometry of a new hydrogen bond during light-soaking of a-Si:H. The Philosophical Magazine: Physics of Condensed Matter B, Statistical Mechanics, Electronic, Optical and Magnetic Properties, 1995, 72, 363-372.	0.6	37
76	Determination of band offsets in a-Si:H/c-Si heterojunctions from capacitanceâ€“voltage measurements: Capabilities and limits. Thin Solid Films, 2007, 515, 7481-7485.	1.8	37
77	Guided growth of in-plane silicon nanowires. Applied Physics Letters, 2009, 95, .	3.3	37
78	Black Silicon formation using dry etching for solar cells applications. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2012, 177, 1509-1513.	3.5	37
79	Snâ€catalyzed silicon nanowire solar cells with 4.9% efficiency grown on glass. Progress in Photovoltaics: Research and Applications, 2013, 21, 77-81.	8.1	37
80	Solâ€“Gel Route Toward Efficient and Robust Distributed Bragg Reflectors for Light Management Applications. Advanced Optical Materials, 2014, 2, 1105-1112.	7.3	36
81	Low temperature growth of highly crystallized silicon thin films using hydrogen and argon dilution. Journal of Non-Crystalline Solids, 1998, 227-230, 852-856.	3.1	35
82	Improvement of crystalline silicon surface passivation by hydrogen plasma treatment. Applied Physics Letters, 2004, 84, 1474-1476.	3.3	35
83	Irreversible light-induced degradation and stabilization of hydrogenated polymorphous silicon solar cells. Solar Energy Materials and Solar Cells, 2012, 105, 208-212.	6.2	35
84	New Approaches to Improve the Performance of Thin-Film Radial Junction Solar Cells Built Over Silicon Nanowire Arrays. IEEE Journal of Photovoltaics, 2015, 5, 40-45.	2.5	35
85	Silane versus silicon tetrafluoride in the growth of microcrystalline silicon films by standard radio frequency glow discharge. Thin Solid Films, 2007, 515, 7451-7454.	1.8	34
86	X-Ray diffraction and Raman spectroscopy for a better understanding of ZnO:Al growth process. EPJ Photovoltaics, 2011, 2, 25002.	1.6	34
87	Low temperature plasma deposition of silicon thin films: From amorphous to crystalline. Journal of Non-Crystalline Solids, 2012, 358, 2000-2003.	3.1	34
88	Inâ€Plane Selfâ€Turning and Twin Dynamics Renders Large Stretchability to Monoâ€Like Zigzag Silicon Nanowire Springs. Advanced Functional Materials, 2016, 26, 5352-5359.	14.9	34
89	Natural occurrence of the diamond hexagonal structure in silicon nanowires grown by a plasma-assisted vapourâ€“liquidâ€“solid method. Nanoscale, 2017, 9, 8113-8118.	5.6	34
90	Insitustudy of the thermal decomposition of B2H6by combining spectroscopic ellipsometry and Kelvin probe measurements. Journal of Applied Physics, 1989, 66, 3286-3292.	2.5	33

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91	Theoretical short-circuit current density for different geometries and organizations of silicon nanowires in solar cells. Solar Energy Materials and Solar Cells, 2013, 117, 645-651.	6.2	33
92	High performance transparent in-plane silicon nanowire Fin-TFTs via a robust nano-droplet-scanning crystallization dynamics. Nanoscale, 2017, 9, 10350-10357.	5.6	33
93	Plasma Deposition of Silicon Clusters: A Way to Produce Silicon Thin Films With Medium-Range Order ?. Materials Research Society Symposia Proceedings, 1998, 507, 855.	0.1	32
94	Quantification of the bond-angle dispersion by Raman spectroscopy and the strain energy of amorphous silicon. Journal of Applied Physics, 2008, 104, .	2.5	32
95	Criteria for improved open-circuit voltage in aâ€Si:H(N)âˆ•câ€Si(P) front heterojunction with intrinsic thin layer solar cells. Journal of Applied Physics, 2008, 103, 034506.	2.5	32
96	Thin crystalline silicon solar cells based on epitaxial films grown at 165Â°C by RF-PECVD. Solar Energy Materials and Solar Cells, 2011, 95, 2260-2263.	6.2	32
97	Microstructural, optical and electrical properties of annealed ZnO:Al thin films. Thin Solid Films, 2013, 531, 424-429.	1.8	32
98	Ultrathin PECVD epitaxial Si solar cells on glass via low-temperature transfer process. Progress in Photovoltaics: Research and Applications, 2016, 24, 1075-1084.	8.1	32
99	Coreâ€“Shell Heterojunction Solar Cells Based on Disordered Silicon Nanowire Arrays. Journal of Physical Chemistry C, 2016, 120, 2962-2972.	3.1	32
100	Deposition of intrinsic, phosphorusâ€doped, and boronâ€doped hydrogenated amorphous silicon films at 50â€‰Â°C. Applied Physics Letters, 1994, 65, 1674-1676.	3.3	31
101	Large Area Deposition of Polymorphous Silicon by Plasma Enhanced Chemical Vapor Deposition at 27.12 MHz and 13.56 MHz. Japanese Journal of Applied Physics, 2003, 42, 4935-4942.	1.5	31
102	Stability and evolution of low-surface-tension metal catalyzed growth of silicon nanowires. Applied Physics Letters, 2011, 98, .	3.3	31
103	In-Plane Epitaxial Growth of Silicon Nanowires and Junction Formation on Si(100) Substrates. Nano Letters, 2014, 14, 6469-6474.	9.1	31
104	Effect of the Nanoparticles on the Structure and Crystallization of Amorphous Silicon Thin Films Produced by rf Glow Discharge. Journal of Materials Research, 1998, 13, 2476-2479.	2.6	30
105	Plasma-Assisted Growth of Silicon Nanowires by Sn Catalyst: Step-by-Step Observation. Nanoscale Research Letters, 2016, 11, 455.	5.7	29
106	Rational design of nanowire solar cells: from single nanowire to nanowire arrays. Nanotechnology, 2019, 30, 194002.	2.6	29
107	Hydrogen, microstructure and defect density in hydrogenated amorphous silicon. Journal De Physique, I, 1992, 2, 1979-1998.	1.2	28
108	Insitumeasurements of changes in the structure and in the excess chargeâ€carrier kinetics at the silicon surface during hydrogen and helium plasma exposure. Journal of Applied Physics, 1995, 78, 1438-1445.	2.5	28

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109	Dry fabrication process for heterojunction solar cells through in-situ plasma cleaning and passivation. Solar Energy Materials and Solar Cells, 2010, 94, 402-405.	6.2	28
110	Low temperature plasma enhanced CVD epitaxial growth of silicon on GaAs: a new paradigm for III-V/Si integration. Scientific Reports, 2016, 6, 25674.	3.3	28
111	Depositionâ€induced defect profiles in amorphous hydrogenated silicon. Applied Physics Letters, 1990, 56, 2448-2450.	3.3	27
112	Role of Siâ€“H bonding inaâ€Si:H metastability. Journal of Applied Physics, 1996, 80, 97-102.	2.5	27
113	Critical issues in plasma deposition of microcrystalline silicon for thin film transistors. Solid-State Electronics, 2008, 52, 422-426.	1.4	27
114	Real-time measurement of the evolution of carrier mobility in thin-film semiconductors during growth. Applied Physics Letters, 1999, 74, 58-60.	3.3	26
115	Effects of the substrate temperature on the growth and properties of hydrogenated nanostructured silicon thin films. Journal Physics D: Applied Physics, 2001, 34, 690-699.	2.8	26
116	Properties of polymorphous siliconâ€“germanium alloys deposited under high hydrogen dilution and at high pressure. Journal of Applied Physics, 2002, 92, 4959-4967.	2.5	26
117	Ultra-thin crystalline silicon films produced by plasma assisted epitaxial growth on silicon wafers and their transfer to foreign substrates. EPJ Photovoltaics, 2010, 1, 10301.	1.6	26
118	Optical characterization of hydrogenated silicon thin films using interference technique. Journal of Applied Physics, 2000, 88, 1907-1915.	2.5	25
119	Low temperature epitaxial growth of SiGe absorber for thin film heterojunction solar cells. Solar Energy Materials and Solar Cells, 2015, 134, 15-21.	6.2	25
120	Firmly standing three-dimensional radial junctions on soft aluminum foils enable extremely low cost flexible thin film solar cells with very high power-to-weight performance. Nano Energy, 2018, 53, 83-90.	16.0	25
121	Realization of heterostructures by pulsed laser induced epitaxy of C+ implanted pseudomorphic SiGe films and of a-SiGeC: H films deposited on Si(100). Journal of Crystal Growth, 1995, 157, 436-441.	1.5	24
122	Optimum doping level in a-Si:H and a-SiC:H materials. Journal of Applied Physics, 1998, 83, 830-836.	2.5	24
123	Optimization of plasma parameters for the production of silicon nano-crystals. New Journal of Physics, 2003, 5, 37-37.	2.9	24
124	Ultra-shallow junctions formed by quasi-epitaxial growth of boron and phosphorous-doped silicon films at 175 Â°C by rf-PECVD. Thin Solid Films, 2010, 518, 2528-2530.	1.8	24
125	Strongly enhanced tunable photoluminescence in polymorphous silicon carbon thin films via excitation-transfer mechanism. Applied Physics Letters, 2010, 97, .	3.3	24
126	Substrate versus superstrate configuration for stable thin film silicon solar cells. Solar Energy Materials and Solar Cells, 2013, 119, 124-128.	6.2	24

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127	Optical properties and performance of pyramidal texture silicon heterojunction solar cells: <scp>K</scp>ey role of vertex angles. Progress in Photovoltaics: Research and Applications, 2018, 26, 369-376.	8.1	24
128	Insituinvestigation of the amorphous silicon/silicon nitride interfaces by spectroellipsometry. Journal of Applied Physics, 1991, 70, 2132-2135.	2.5	23
129	Microcrystalline Silicon Thin-Films Grown by Plasma Enhanced Chemical Vapour Deposition - Growth Mechanisms and Grain Size Control. Solid State Phenomena, 2003, 93, 257-268.	0.3	23
130	Contribution of plasma generated nanocrystals to the growth of microcrystalline silicon thin films. Journal of Non-Crystalline Solids, 2004, 338-340, 86-90.	3.1	23
131	Low temperature plasma synthesis of silicon nanocrystals: a strategy for high deposition rate and efficient polymorphous and microcrystalline solar cells. Plasma Physics and Controlled Fusion, 2008, 50, 124037.	2.1	23
132	Assessing individual radial junction solar cells over millions on VLS-grown silicon nanowires. Nanotechnology, 2013, 24, 275401.	2.6	23
133	Normal and anti Meyerâ€“Neldel rule in conductivity of highly crystallized undoped microcrystalline silicon films. Journal of Non-Crystalline Solids, 2008, 354, 2263-2267.	3.1	22
134	Operating principles of in-plane silicon nanowires at simple step-edges. Nanoscale, 2015, 7, 5197-5202.	5.6	22
135	Transport mechanisms in hydrogenated microcrystalline silicon. Thin Solid Films, 2001, 383, 53-56.	1.8	21
136	No benefit from microcrystalline siliconNlayers in single junction amorphous silicon p-i-n solar cells. Journal of Applied Physics, 2003, 93, 170-174.	2.5	21
137	Luminescence of polymorphous silicon carbon alloys. Optical Materials, 2005, 27, 953-957.	3.6	21
138	Growth dynamics of hydrogenated silicon nanoparticles under realistic conditions of a plasma reactor. Computational Materials Science, 2006, 35, 216-222.	3.0	21
139	Experimental evidence for extended hydrogen diffusion in silicon thin films during light-soaking. Journal of Non-Crystalline Solids, 2006, 352, 1083-1086.	3.1	21
140	Calorimetry of dehydrogenation and dangling-bond recombination in several hydrogenated amorphous silicon materials. Physical Review B, 2006, 73, .	3.2	21
141	High interfacial conductivity at amorphous silicon/crystalline silicon heterojunctions. Journal of Non-Crystalline Solids, 2008, 354, 2641-2645.	3.1	21
142	Temperature dependence of the optical functions of amorphous silicon-based materials: application to in situ temperature measurements by spectroscopic ellipsometry. Thin Solid Films, 2004, 468, 298-302.	1.8	20
143	Large grain Î¼c-Si:H films deposited at low temperature: Growth process and electronic properties. Journal of Non-Crystalline Solids, 2006, 352, 964-967.	3.1	20
144	Device grade hydrogenated polymorphous silicon deposited at high rates. Journal of Non-Crystalline Solids, 2008, 354, 2092-2095.	3.1	20

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145	Full potential of radial junction Si thin film solar cells with advanced junction materials and design. Applied Physics Letters, 2015, 107, .	3.3	20
146	Sunlight-thin nanophotonic monocrystalline silicon solar cells. Nano Futures, 2017, 1, 021001.	2.2	20
147	Ionâ€induced secondary electron emission in SiH4glow discharge, and temperature dependence of hydrogenated amorphous silicon deposition rate. Journal of Applied Physics, 1993, 73, 2578-2580.	2.5	19
148	Advances in the deposition of microcrystalline silicon at high rate by distributed electron cyclotron resonance. Thin Solid Films, 2008, 516, 6834-6838.	1.8	19
149	Long range effects of hydrogen during microcrystalline silicon growth. Thin Solid Films, 1997, 296, 11-14.	1.8	18
150	Growth mechanisms and structural properties of microcrystalline silicon films deposited by catalytic CVD. Thin Solid Films, 2001, 395, 178-183.	1.8	18
151	Experimental study and modeling of reverse-bias dark currents in PIN structures using amorphous and polymorphous silicon. Journal of Applied Physics, 2003, 94, 7317-7327.	2.5	18
152	The open-circuit voltage in microcrystalline silicon solar cells of different degrees of crystallinity. Thin Solid Films, 2008, 516, 6974-6978.	1.8	18
153	Bi-Sn alloy catalyst for simultaneous morphology and doping control of silicon nanowires in radial junction solar cells. Applied Physics Letters, 2015, 107, .	3.3	18
154	Heteroepitaxial Writing of Silicon-on-Sapphire Nanowires. Nano Letters, 2016, 16, 7317-7324.	9.1	18
155	Unravelling a simple method for the low temperature synthesis of silicon nanocrystals and monolithic nanocrystalline thin films. Scientific Reports, 2017, 7, 40553.	3.3	18
156	Growth of In-Plane Ge_{1â€“x}Sn_x Nanowires with 22 at. % Sn Using a Solidâ€“Liquidâ€“Solid Mechanism. Journal of Physical Chemistry C, 2018, 122, 26236-26242.	3.1	18
157	Highly flexible radial tandem junction thin film solar cells with excellent power-to-weight ratio. Nano Energy, 2021, 86, 106121.	16.0	18
158	Studies by photothermal deflection spectroscopy of defect formation in a-Si:H. The Philosophical Magazine: Physics of Condensed Matter B, Statistical Mechanics, Electronic, Optical and Magnetic Properties, 1991, 63, 143-150.	0.6	17
159	Experimental evidence for the annealing of surface defects inaâ€Si:H during deposition. Journal of Applied Physics, 1992, 72, 4727-4731.	2.5	17
160	Multilayered silicon/silicon nitride thin films deposited by plasma-CVD: Effects of crystallization. Scripta Materialia, 1995, 6, 843-846.	0.5	17
161	Plasma studies under polymorphous silicon deposition conditions. Thin Solid Films, 2003, 427, 236-240.	1.8	17
162	Crystallization kinetics of hydrogenated amorphous silicon thick films grown by plasma-enhanced chemical vapour deposition. Applied Surface Science, 2004, 238, 165-168.	6.1	17

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163	Study of radial growth rate and size control of silicon nanocrystals in square-wave-modulated silane plasmas. Applied Physics Letters, 2007, 91, 111501.	3.3	17
164	Study of the effects of different fractions of large grains of Î¼c-Si:H:F films on the infrared absorption on thin film solar cells. Solar Energy Materials and Solar Cells, 2012, 100, 16-20.	6.2	17
165	Fine-tuning of the interface in high-quality epitaxial silicon films deposited by plasma-enhanced chemical vapor deposition at 200 Â°C. Journal of Materials Research, 2013, 28, 1626-1632.	2.6	17
166	Understanding the amorphous-to-microcrystalline silicon transition in SiF4/H2/Ar gas mixtures. Journal of Chemical Physics, 2014, 140, 234706.	3.0	17
167	Cross-Sectional Investigations on Epitaxial Silicon Solar Cells by Kelvin and Conducting Probe Atomic Force Microscopy: Effect of Illumination. Nanoscale Research Letters, 2016, 11, 55.	5.7	17
168	Low-Temperature Plasma-Assisted Growth of Coreâ€“Shell GeSn Nanowires with 30% Sn. Journal of Physical Chemistry C, 2020, 124, 1220-1226.	3.1	17
169	Time resolved microwave conductivity measurements for the characterization of transport properties in thin film micro-crystalline silicon. Thin Solid Films, 1997, 296, 94-97.	1.8	16
170	Role of hydrogen diffusion on the growth of polymorphous and microcrystalline silicon thin films. EPJ Applied Physics, 2006, 35, 165-172.	0.7	16
171	Why does the open-circuit voltage in a micro-crystalline silicon PIN solar cell decrease with increasing crystalline volume fraction?. Journal of Non-Crystalline Solids, 2008, 354, 2455-2459.	3.1	16
172	Ion Energy Threshold in Low-Temperature Silicon Epitaxy for Thin-Film Crystalline Photovoltaics. IEEE Journal of Photovoltaics, 2014, 4, 1361-1367.	2.5	16
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