Caterina Summonte

List of Publications by Year
in descending order

97 papers	1,414 citations	331538 21 h-index	377752 34 g-index
101 all docs	101 docs citations	101 times ranked	1446 citing authors

#	Article	IF	Citations
1	Experimental determination of the sensitivity of Bloch Surface Waves based sensors. Optics Express, 2010, 18, 8087.	1.7	96
2	Optimization of ITO layers for applications in a-Si/c-Si heterojunction solar cells. Thin Solid Films, 2003, 425, 185-192.	0.8	85
3	Optical, structural and electrical properties of device-quality hydrogenated amorphous silicon-nitrogen films deposited by plasma-enhanced chemical vapour deposition. The Philosophical Magazine: Physics of Condensed Matter B, Statistical Mechanics, Electronic, Optical and Magnetic Properties, 1998, 77, 925-944.	0.6	75
4	Parametrization of optical properties of indiumâ€“tinâ€“oxide thin films by spectroscopic ellipsometry: Substrate interfacial reactivity. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2002, 20, 37-42.	0.9	65
5	Fluorescence emission enhanced by surface electromagnetic waves on one-dimensional photonic crystals. Applied Physics Letters, 2009, 94, .	1.5	54
6	Optoelectronic properties, structure and composition of a-SiC:H films grown in undiluted and H2 diluted silane-methane plasma. Journal of Applied Physics, 1997, 81, 7973-7980.	1.1	53
7	Strain and surface damage induced by proton exchange inYâ€cut LiNbO3. Journal of Applied Physics, 1985, 58, 4521-4524.	1.1	46
8	Surface doping of semiconductors by pulsed-laser irradiation in reactive atmosphere. Applied Physics A: Solids and Surfaces, 1988, 45, 317-324.	1.4	45
9	Photoelectrical characterization of Schottky junctions between poly(4h-cyclopenta[2,1â€“b:3,4â€“bâ€²]dithiophene) and aluminium: effect of hexadecyl groups in 4 position. Thin Solid Films, 2000, 366, 211-215.	0.8	43
10	Anatomy of Î¼c-Si thin films by plasma enhanced chemical vapor deposition: An investigation by spectroscopic ellipsometry. Journal of Applied Physics, 2000, 88, 2408-2414.	1.1	40
11	Optical bandgap of semiconductor nanostructures: Methods for experimental data analysis. Journal of Applied Physics, 2017, 121, .	1.1	37
12	Wide band-gap silicon-carbon alloys deposited by very high frequency plasma enhanced chemical vapor deposition. Journal of Applied Physics, 2004, 96, 3987-3997.	1.1	36
13	The influence of hydrogen dilution on the optoelectronic and structural properties of hydrogenated amorphous silicon carbide films. The Philosophical Magazine: Physics of Condensed Matter B, Statistical Mechanics, Electronic, Optical and Magnetic Properties, 1994, 69, 377-386.	0.6	35
14	Silicon nanocrystals in carbide matrix. Solar Energy Materials and Solar Cells, 2014, 128, 138-149.	3.0	34
15	Electro-optical modulation at 1550 nm in an as-deposited hydrogenated amorphous silicon p-i-n waveguiding device. Optics Express, 2011, 19, 2941.	1.7	33
16	Electro-optically induced absorption in Î±-Si:H/Î±-SiCN waveguiding multistacks. Optics Express, 2008, 16, 7540.	1.7	32
17	Influence of the sputtering system's vacuum level on the properties of indium tin oxide films. Thin Solid Films, 2006, 500, 203-208.	0.8	28
18	Photocarrier collection in a-SiC:H/c-Si heterojunction solar cells. Journal of Non-Crystalline Solids, 1998, 227-230, 1291-1294.	1.5	26

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19	Silicon nanocrystals embedded in silicon carbide: Investigation of charge carrier transport and recombination. Applied Physics Letters, 2013, 102, 033507.	1.5	26
20	Homojunction and heterojunction silicon solar cells deposited by low temperatureâ€“high frequency plasma enhanced chemical vapour deposition. Thin Solid Films, 2002, 405, 248-255.	0.8	25
21	Optical And Electrical Properties Of Si Nanocrystals Embedded In SiC Matrix. Advanced Materials Letters, 2012, 3, 297-304.	0.3	22
22	Spectral behavior of solar cells based on the â€˜â€˜junction near local defect layerâ€™â€™ design. Applied Physics Letters, 1993, 63, 785-787.	1.5	20
23	TMAH-textured, a-Si/c-Si, heterojunction solar cells with 10% reflectance. Solar Energy Materials and Solar Cells, 2011, 95, 2987-2987.	3.0	20
24	Very high frequency hydrogen plasma treatment of growing surfaces: a study of the p-type amorphous to microcrystalline silicon transition. Journal of Non-Crystalline Solids, 2000, 266-269, 624-629.	1.5	18
25	Open circuit voltage in homojunction and heterojunction silicon solar cells grown by VHF-PECVD. Journal of Non-Crystalline Solids, 2002, 299-302, 1203-1207.	1.5	18
26	Boron doping of silicon rich carbides: Electrical properties. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2013, 178, 551-558.	1.7	18
27	Graphene as transparent conducting layer for high temperature thin film device applications. Solar Energy Materials and Solar Cells, 2015, 138, 35-40.	3.0	18
28	Electrooptical Modulating Device Based on a CMOS-Compatible <formula formulatype="inline"> <tex Notation="TeX">${m alpha}$</tex> </formula>-Si:H/<formula formulatype="inline"> <tex Notation="TeX">${m alpha}$</tex> </formula>-SiCN Multistack Waveguide. IEEE Journal of Selected Topics in Quantum Electronics, 2010, 16, 173-178.	1.9	16
29	Silicon heterojunction solar cells with p nanocrystalline thin emitter on monocrystalline substrate. Thin Solid Films, 2004, 451-452, 350-354.	0.8	15
30	Properties of TiN obtained by N+2implantation on Tiâ€coated Si wafers. Applied Physics Letters, 1982, 41, 446-448.	1.5	14
31	The sign of the Hall effect in hydrogenated amorphous and disordered crystalline silicon. Philosophical Magazine Letters, 1996, 74, 455-464.	0.5	14
32	Plasma-enhanced chemical vapour deposition of microcrystalline silicon: On the dynamics of the amorphous-microcrystalline interface by optical methods. The Philosophical Magazine: Physics of Condensed Matter B, Statistical Mechanics, Electronic, Optical and Magnetic Properties, 2000, 80, 459-473.	0.6	13
33	Ultrathin Î¼c-Si films deposited by PECVD. Thin Solid Films, 2001, 383, 7-10.	0.8	13
34	Stopping power of SiO2 for 0.2â€“3.0 MeV He ions. Nuclear Instruments & Methods in Physics Research B, 2002, 196, 209-214.	0.6	13
35	Low-loss amorphous silicon waveguides grown by PECVD on indium tin oxide. Journal of the European Optical Society-Rapid Publications, 0, 5, .	0.9	12
36	Identification and tackling of a parasitic surface compound in SiC and Si-rich carbide films. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2013, 178, 623-629.	1.7	11

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37	Tail absorption in the determination of optical constants of silicon rich carbides. Thin Solid Films, 2014, 556, 105-111.	0.8	11
38	Absorption and emission of silicon nanocrystals embedded in SiC: Eliminating Fabry-PÃ©rot interference. Journal of Applied Physics, 2015, 117, .	1.1	10
39	Electrical properties of silicon carbide/silicon rich carbide multilayers for photovoltaic applications. Solar Energy Materials and Solar Cells, 2015, 135, 29-34.	3.0	10
40	Silicon nanocrystals embedded in silicon carbide as a wide-band gap photovoltaic material. Solar Energy Materials and Solar Cells, 2016, 144, 551-558.	3.0	10
41	A Quasi-Exact Inverteble Equation for Absorption Coefficient from Reflectance and Transmittance Measurements. Materials Research Society Symposia Proceedings, 1993, 297, 395.	0.1	9
42	In-guide pump and probe characterization of photoinduced absorption in hydrogenated amorphous silicon thin films. Journal of Applied Physics, 2006, 100, 033104.	1.1	9
43	Optimization of relevant deposition parameters for high quality a-SiC:H films. Solar Energy Materials and Solar Cells, 1995, 37, 315-321.	3.0	8
44	Application of nanotechnologies in high energy physics. Nuclear Physics, Section B, Proceedings Supplements, 2003, 125, 164-168.	0.5	8
45	Amorphous silicon waveguides grown by PECVD on an Indium Tin Oxide buried contact. Optics Communications, 2012, 285, 3088-3092.	1.0	8
46	Electro-optical effect in hydrogenated amorphous silicon-based waveguide-integrated p-i-p and p-i-n configurations. Optical Engineering, 2013, 52, 087110.	0.5	8
47	Charge transport in nanocrystalline SiC with and without embedded Si nanocrystals. Physical Review B, 2015, 91, .	1.1	8
48	Compositional, optoelectronic and structural properties of amorphous silicon-nitrogen alloys deposited by plasma enhanced chemical vapor deposition. Journal of Non-Crystalline Solids, 1996, 198-200, 596-600.	1.5	7
49	a-SiN:H multilayer versus bulk structure: a real improvement of radiative efficiency?. Journal of Non-Crystalline Solids, 2000, 266-269, 1062-1066.	1.5	7
50	Influence of boron doping and hydrogen passivation on recombination of photoexcited charge carriers in silicon nanocrystal/SiC multilayers. Journal of Applied Physics, 2013, 114, .	1.1	7
51	Defect Distribution and Bonding Structure in High Band Gap a-Si_{1â^'x}C_x:H Films Deposited in H₂ Dilution. Materials Research Society Symposia Proceedings, 1994, 336, 517.	0.1	6
52	Laser induced crystallization of hydrogenated amorphous silicon-carbon alloys. Journal of Applied Physics, 2004, 96, 3998-4005.	1.1	6
53	In-guide measurement of the infra red absorption variation induced in hydrogenated amorphous silicon by visible radiation. Journal of Non-Crystalline Solids, 2004, 338-340, 249-253.	1.5	6
54	Electro-optically induced absorption in $alpha$-Si:H/$alpha$-SiCN waveguiding multistacks. Journal of the European Optical Society-Rapid Publications, 0, 5, .	0.9	6

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55	Electrical and Optical Characterisation of Silicon Nanocrystals Embedded in SiC. Solid State Phenomena, 0, 205-206, 480-485.	0.3	6
56	Monolithic Si nanocrystal/crystalline Si tandem cells involving Si nanocrystals in SiC. Progress in Photovoltaics: Research and Applications, 2016, 24, 1165-1177.	4.4	6
57	A study on excimer laser amorphous silicon film crystallization. Journal of Non-Crystalline Solids, 1991, 137-138, 725-728.	1.5	5
58	Boron and phosphorus doping of a-SiC:H thin films by means of ion implantation. Thin Solid Films, 1995, 265, 113-118.	0.8	5
59	Study of a-Si:H / c-Si Heterojunctions for PV Applications. Materials Research Society Symposia Proceedings, 1996, 420, 45.	0.1	5
60	Influence of Front Contact Material on Silicon Heterojunction Solar Cell Performance. Materials Research Society Symposia Proceedings, 1997, 467, 807.	0.1	5
61	Photoluminescence and electroluminescence properties of a-Si1âˆ'xNx:H based superlattice structures. Journal of Non-Crystalline Solids, 1998, 227-230, 1127-1131.	1.5	5
62	Low-cost chip-integrable silicon-based all-optical infrared light micromodulator. Journal of Non-Crystalline Solids, 2002, 299-302, 1300-1303.	1.5	5
63	Silicon heterojunction solar cells with microcrystalline emitter. Journal of Non-Crystalline Solids, 2004, 338-340, 706-709.	1.5	5
64	Design study of micromachined thermal emitters for NDIR gas sensing in the 9-12 μm wavelength range. Proceedings of IEEE Sensors, 2007, , .	1.0	5
65	Photoinduced absorption in B-doped hydrogenated amorphous silicon alloys applied to all-optical modulators. Journal of Applied Physics, 2008, 103, 023107.	1.1	5
66	Transparent Conducting Oxides for High Temperature Processing. Energy Procedia, 2014, 44, 23-31.	1.8	5
67	Nanocrystalline SiC formed by annealing of a-SiC:H on Si substrates: A study of dopant interdiffusion. Journal of Applied Physics, 2014, 116, 024315.	1.1	5
68	Effect of Hydrogen Plasma Treatments at very High Frequency on p-Type Amorphous and Microcrystalline Silicon Films. Materials Research Society Symposia Proceedings, 1998, 536, 517.	0.1	5
69	Progress towards a high-performing a-Si:H-based electro-optic modulator. Journal of Optics (United) Tj ETQq1 1 0.784314 rgBT /Overl	1.0	4
70	Excimer Laser Amorphous Silicon Film Crystallization: A Study of Time Resolved Reflectivity Measurements. Materials Research Society Symposia Proceedings, 1993, 297, 539.	0.1	3
71	Boron diffusion in nanocrystalline 3C-SiC. Applied Physics Letters, 2014, 104, 213108.	1.5	3
72	High-Bandgap Silicon Nanocrystal Solar Cells: Device Fabrication, Characterization, and Modeling. Springer Series in Materials Science, 2014, , 165-194.	0.4	3

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73	Light scattering by acoustic phonons in unhydrogenated and hydrogenated amorphous silicon. Journal of Non-Crystalline Solids, 1993, 164-166, 927-930.	1.5	2
74	Analytical Expression for the Imaginary Part of the Dielectric Constant of Microcrystalline Silicon. Research and Application of Material, 2013, 1, 9.	0.4	2
75	Optimization of Optoelectronic Properties of a-SiC:H Films. Materials Research Society Symposia Proceedings, 1993, 297, 681.	0.1	1
76	Photoluminescence and Optical Characterization of a-SixN1-x:H based Multilayers Grown by PECVD. Materials Research Society Symposia Proceedings, 1997, 467, 489.	0.1	1
77	Low-cost VLSI-compatible resonant-cavity-enhanced p-i-n in micron-Si operating at the VCSEL wavelengths around 850 nm. , 2003, , .		1
78	Microcrystalline silicon pâ€“iâ€“n photodetectors for telecommunications and photovoltaic applications. Journal of Non-Crystalline Solids, 2004, 338-340, 784-787.	1.5	1
79	Silicon nanograins with aluminum contacts studied by the Density Functional method. Materials Science and Engineering C, 2005, 25, 695-697.	3.8	1
80	Study of in-gap defects in intrinsic and B-doped a-Si1â^'xCx:H by photo-induced optical absorption and photoluminescence. Journal of Non-Crystalline Solids, 2006, 352, 2647-2651.	1.5	1
81	Characterization of an electrically induced refractive index change in a hydrogenated amorphous silicon multistack waveguide. , 2011, , .		1
82	Optical properties of silicon rich oxides. Physica Status Solidi C: Current Topics in Solid State Physics, 2011, 8, 996-1001.	0.8	1
83	Local epitaxy from the silicon substrate in siliconâ€“rich SiC during Siâ€“nanocrystals formation. Thin Solid Films, 2017, 628, 54-60.	0.8	1
84	Simulation of the optical properties of gold nanoparticles on sodium alginate. EPJ Web of Conferences, 2021, 255, 08002.	0.1	1
85	Photoluminescence and photothermal deflection spectroscopy in potassium doped a-Si:H. Journal of Non-Crystalline Solids, 1993, 164-166, 635-638.	1.5	0
86	Boron and Phosphorus Ion Implantation In a-SixC1â^'x:H Thin Films. Materials Research Society Symposia Proceedings, 1994, 336, 571.	0.1	0
87	Hall-Effect and Sign Properties in Hydrogenated Amorphous and Disordered Crystalline Silicon. Materials Research Society Symposia Proceedings, 1996, 420, 813.	0.1	0
88	Amorphous silicon thin film for all-optical micromodulator. , 2003, , .		0
89	All-optical modulation in thin film silicon-based waveguiding structures. , 2005, , .		0
90	Amorphous silicon based active photonic devices. , 0, , .		0

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91	Design, fabrication, and characterization of an Î±-Si:H/Î±-SiCN multistack waveguide for electro optical modulation. , 2008, , .		0
92	Amorphous silicon waveguides grown by PECVD on an Indium Tin Oxide buried contact. , 2010, , .		0
93	Heterojunction solar cells on multi- crystalline silicon: surface treatments. Physica Status Solidi C: Current Topics in Solid State Physics, 2011, 8, 928-931.	0.8	0
94	Electro-Optical Modulating Multistack Device Based on the CMOS-Compatible Technology of Amorphous Silicon. Lecture Notes in Electrical Engineering, 2011, , 285-289.	0.3	0
95	A ternaryâ€“3D analysis of the optical properties of amorphous hydrogenated siliconâ€“rich carbide. Materials Chemistry and Physics, 2019, 221, 301-310.	2.0	0
96	Highly Stable Thin Films Based on Novel Hybrid 1D (PRSH)PbX3 Pseudo-Perovskites. Nanomaterials, 2021, 11, 2765.	1.9	0
97	Powder Dissipation in PECVD for SiH₄-CH₄-H₂ Gas Mixtures. European Physical Journal Special Topics, 1995, 05, C5-1125-C5-1132.	0.2	0