Simona Binetti

List of Publications by Year in descending order

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105	1,534	304743	377865
papers	citations	22 h-index	34 g-index

106	106	106	1665
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Optical properties of oxygen precipitates and dislocations in silicon. Journal of Applied Physics, 2002, 92, 2437-2445.	2.5	85
2	New Earth-Abundant Thin Film Solar Cells Based on Chalcogenides. Frontiers in Chemistry, 2019, 7, 297.	3.6	77
3	Encapsulating Eu³⁺ complex doped layers to improve Siâ€based solar cell efficiency. Progress in Photovoltaics: Research and Applications, 2009, 17, 519-525.	8.1	75
4	Photovoltaic quantum efficiency enhancement by light harvesting of organo-lanthanide complexes. Journal of Luminescence, 2006, 118, 325-329.	3.1	65
5	Effect of compensation and of metallic impurities on the electrical properties of Cz-grown solar grade silicon. Journal of Applied Physics, 2008, 104, 104507.	2.5	56
6	From electronic grade to solar grade silicon: chances and challenges in photovoltaics. Physica Status Solidi (A) Applications and Materials Science, 2005, 202, 2928-2942.	1.8	55
7	CZTS absorber layer for thin film solar cells from electrodeposited metallic stacked precursors (Zn/Cu-Sn). Applied Surface Science, 2016, 379, 91-97.	6.1	49
8	Optimized luminescence properties of Mn doped ZnS nanoparticles for photovoltaic applications. Journal of Applied Physics, 2013, 113, .	2.5	44
9	Cu2ZnSnS4 solar cells grown by sulphurisation of sputtered metal precursors. Thin Solid Films, 2013, 542, 114-118.	1.8	43
10	Rare earth organic complexes as down-shifters to improve Si-based solar cell efficiency. Optical Materials, 2011, 33, 1012-1014.	3.6	42
11	Nanocrystalline silicon films grown by Low Energy Plasma Enhanced Chemical Vapor Deposition for optoelectronic applications. Thin Solid Films, 2005, 487, 19-25.	1.8	37
12	Nanocrystalline silicon films as multifunctional material for optoelectronic and photovoltaic applications. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2006, 134, 118-124.	3.5	32
13	Photoluminescence and infrared spectroscopy for the study of defects in silicon for photovoltaic applications. Solar Energy Materials and Solar Cells, 2014, 130, 696-703.	6.2	32
14	Comparative study on structural, morphological and optical properties of Zn2SnO4 thin films prepared by r.f. sputtering using Zn and Sn metal targets and ZnOâ€“SnO2 ceramic target. Journal of Alloys and Compounds, 2015, 626, 112-117.	5.5	31
15	Concentration quenching and photostability in Eu(dbm)3phen embedded in mesoporous silica nanoparticles. Journal of Luminescence, 2014, 146, 178-185.	3.1	30
16	Fast LBIC in-line characterization for process quality control in the photovoltaic industry. Solar Energy Materials and Solar Cells, 2002, 72, 417-424.	6.2	27
17	Oxygen distribution on a multicrystalline silicon ingot grown from upgraded metallurgical silicon. Solar Energy Materials and Solar Cells, 2011, 95, 529-533.	6.2	26
18	Optical and electrical studies of transparent conductive AZO and ITO sputtered thin films for CIGS photovoltaics. Physica Status Solidi C: Current Topics in Solid State Physics, 2014, 11, 1464-1467.	0.8	26

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19	Structural characterization of nc-Si films grown by low-energy PECVD on different substrates. Applied Surface Science, 2008, 254, 2804-2808.	6.1	25
20	Donorâ^'acceptor pair luminescence in compensated Si for solar cells. Journal of Applied Physics, 2011, 110, 043506.	2.5	25
21	Subband gap photoresponse of nanocrystalline silicon in a metal-oxide-semiconductor device. Journal of Applied Physics, 2008, 104, .	2.5	24
22	Nanocrystalline silicon film grown by LEPECVD for photovoltaic applications. Solar Energy Materials and Solar Cells, 2005, 87, 11-24.	6.2	23
23	Study of defects and impurities in multicrystalline silicon grown from metallurgical silicon feedstock. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2009, 159-160, 274-277.	3.5	23
24	Luminescence of Dislocations and Oxide Precipitates in Si. Solid State Phenomena, 2004, 95-96, 273-282.	0.3	22
25	Dislocation luminescence in plastically deformed silicon crystals: effect of dislocation intersection and oxygen decoration. EPJ Applied Physics, 2004, 27, 123-127.	0.7	21
26	On the nature of striations in n-type silicon solar cells. Applied Physics Letters, 2016, 109, .	3.3	21
27	Dislocation luminescence in nitrogen-doped Czochralski and float zone silicon. Journal of Physics Condensed Matter, 2002, 14, 13247-13254.	1.8	20
28	Effect of P-induced gettering on extended defects in n-type multicrystalline silicon. Progress in Photovoltaics: Research and Applications, 2007, 15, 375-386.	8.1	20
29	Key Success Factors and Future Perspective of Silicon-Based Solar Cells. International Journal of Photoenergy, 2013, 2013, 1-6.	2.5	20
30	Effects of CdS Buffer Layers on Photoluminescence Properties of Cu₂ZnSnS₄Solar Cells. International Journal of Photoenergy, 2015, 2015, 1-8.	2.5	17
31	Crystallinity and microstructure in Si films grown by plasma-enhanced chemical vapor deposition: A simple atomic-scale model validated by experiments. Applied Physics Letters, 2009, 94, 051904.	3.3	16
32	Temperatureâ€dependent Hallâ€effect measurements of pâ€type multicrystalline compensated solar grade silicon. Progress in Photovoltaics: Research and Applications, 2013, 21, 1469-1477.	8.1	16
33	Erbium in Silicon: Problems and Challenges. Solid State Phenomena, 1997, 57-58, 197-206.	0.3	15
34	Picosecond laser texturization of mc-silicon for photovoltaics: A comparison between 1064 nm, 532 nm and 355 nm radiation wavelengths. Applied Surface Science, 2016, 371, 196-202.	6.1	15
35	Electronic transitions at defect states in Cz p-type silicon. Applied Physics Letters, 2005, 86, 162109.	3.3	14
36	The Origin of Photoluminescence from Oxygen Precipitates Nucleated at Low Temperature in Semiconductor Silicon. Journal of the Electrochemical Society, 2004, 151, G866.	2.9	13

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37	Electrical characterization of electron irradiated X-rays detectors based on 4H-SiC epitaxial layers. Diamond and Related Materials, 2004, 13, 414-418.	3.9	13
38	Optical spectroscopy study of type 1 natural and synthetic sapphires. Journal of Physics Condensed Matter, 2008, 20, 125228.	1.8	13
39	Hybrid sputtering/evaporation deposition of Cu(In,Ga)Se2 thin film solar cells. Energy Procedia, 2011, 10, 138-143.	1.8	13
40	CIGS thin films grown by hybrid sputtering-evaporation method: Properties and PV performance. Solar Energy, 2018, 175, 16-24.	6.1	13
41	Kesterite solar-cells by drop-casting of inorganic solâ€“gel inks. Solar Energy, 2020, 208, 532-538.	6.1	13
42	Processing step-related upgrading of silicon-based solar cells detected by photoluminescence spectroscopy. Solar Energy Materials and Solar Cells, 2005, 86, 11-18.	6.2	12
43	Optical properties of shuffle dislocations in silicon. Applied Physics Letters, 2006, 88, 211910.	3.3	12
44	Development of a hybrid sputtering/evaporation process for Cu(In,Ga)Se2 thin film solar cells. Crystal Research and Technology, 2011, 46, 871-876.	1.3	12
45	In-depth photoluminescence spectra of pure CIGS thin films. Applied Optics, 2018, 57, 1849.	1.8	12
46	Electrical and optical characterization of electron-irradiated 4H-SiC epitaxial layers annealed at low temperature. Diamond and Related Materials, 2005, 14, 1150-1153.	3.9	11
47	A chemical deposition process for low-cost CZTS solar cell on flexible substrates. Materials Technology, 2017, 32, 251-255.	3.0	11
48	Structural Homogeneity of nc-Si Films Grown by Low-Energy PECVD. Electrochemical and Solid-State Letters, 2008, 11, P5.	2.2	10
49	Fine Structure Due to Donorâ€“Acceptor Pair Luminescence in Compensated Si. Applied Physics Express, 2010, 3, 071301.	2.4	10
50	Optical and electrical characterization of AlGaInP solar cells. Solar Energy Materials and Solar Cells, 2010, 94, 2002-2006.	6.2	10
51	Growth and Characterization of Cu2Zn1â^'xFexSnS4 Thin Films for Photovoltaic Applications. Materials, 2020, 13, 1471.	2.9	10
52	Effects of low-temperature annealing on polycrystalline silicon for solar cells. Solar Energy Materials and Solar Cells, 2011, 95, 559-563.	6.2	9
53	Effect of high pressure isostatic annealing on oxygen segregation in Czochralski silicon. Journal of Applied Physics, 2003, 94, 7476.	2.5	8
54	Effect of the Irradiation on Optical and Electrical Properties of Triple-Junction Flexible Thin Solar Cells for Space Applications. Frontiers in Physics, 2019, 7, .	2.1	8

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55	Optical Properties of Oxygen Agglomerates in Silicon. Solid State Phenomena, 2002, 82-84, 75-80.	0.3	7
56	Electrical and Optical Properties of Dislocations Generated under Pure Conditions. Solid State Phenomena, 2003, 95-96, 453-458.	0.3	7
57	Silicon Carbide for Alpha, Beta, Ion and Soft X-Ray High Performance Detectors. Materials Science Forum, 2005, 483-485, 1015-1020.	0.3	7
58	Integration of InGaP/GaAs/Ge triple-junction solar cells on deeply patterned silicon substrates. Progress in Photovoltaics: Research and Applications, 2016, 24, 1368-1377.	8.1	7
59	State of the Art and Perspectives of Inorganic Photovoltaics. , 2013, 2013, 1-8.		6
60	Si1â‾'Ge (xâ‰¥0.2) crystal growth in the absence of a crucible. Journal of Crystal Growth, 2014, 401, 762-766.	1.5	6
61	Semi-transparent Cu2ZnSnS4 solar cells by drop-casting of sol-gel ink. Solar Energy, 2021, 224, 134-141.	6.1	6
62	Nanostructured Silicon-Based Films for Photovoltaics: Recent Progresses and Perspectives. Science of Advanced Materials, 2011, 3, 388-400.	0.7	6
63	Influence of the Host Composition on the Equilibrium Structure of Er-Centers in Silicon. Solid State Phenomena, 1997, 54, 86-93.	0.3	5
64	Beam Injection Studies of Dislocations and Oxygen Precipitates in Semiconductor Silicon. Solid State Phenomena, 2001, 78-79, 57-64.	0.3	5
65	Surface Contaminant Detection in Semiconductors Using Noncontacting Techniques. Journal of the Electrochemical Society, 2003, 150, G456.	2.9	5
66	Diffusion length and junction spectroscopy analysis of low-temperature annealing of electron irradiation-induced deep levels in 4H-SiC. Journal of Applied Physics, 2006, 99, 033701.	2.5	5
67	EBIC, EBSD and TEM study of grain boundaries in multicrystalline silicon cast from metallurgical feedstock. Conference Record of the IEEE Photovoltaic Specialists Conference, 2008, , .	0.0	5
68	Gallium In-Depth Profile in Bromine- Etched Copperâ€“Indiumâ€“Galiumâ€“(Di)selenide (CIGS) Thin Films Inspected Using Raman Spectroscopy. Applied Spectroscopy, 2017, 71, 1334-1339.	2.2	5
69	Effect of heat treatment on the optical and electrical properties of nitrogen-doped silicon samples. Microelectronic Engineering, 2003, 66, 297-304.	2.4	4
70	Photoluminescence of Dislocations in Nitrogen Doped Czochralski Silicon. Chinese Physics Letters, 2004, 21, 2242-2244.	3.3	4
71	Electric-dipole spin-resonance signals related to extended interstitial agglomerates in silicon. Journal of Applied Physics, 2005, 98, 043507.	2.5	4
72	Defect studies on silicon and siliconâ€“germanium for PV and optoelectronic applications. Materials Science in Semiconductor Processing, 2006, 9, 66-73.	4.0	4

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73	Light-Induced degradation in compensated mc-Si p-type solar cells. , 2012, , .		4
74	Quasi-Zero Dimensional Halide Perovskite Derivates: Synthesis, Status, and Opportunity. Frontiers in Electronics, 0, 2, .	3.2	4
75	Band-Gap Tuning Induced by Germanium Introduction in Solution-Processed Kesterite Thin Films. ACS Omega, 2022, 7, 23445-23456.	3.5	4
76	Study of the correlation between radiative and non-radiative recombination channels in silicon. Journal of Physics Condensed Matter, 2002, 14, 13223-13230.	1.8	3
77	Tuning by means of laser annealing of electronic and structural properties of nc-Si/a-Si:H. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2009, 159-160, 31-33.	3.5	3
78	Silicon based solar cells: Research progress and future perspectives. , 2010, , .		3
79	ZnO:Al/i-ZnO bi-layers deposited on large substrates by pulsed D.C. magnetron sputtering for chalcogenide photovoltaics. Ceramics International, 2014, 40, 14595-14599.	4.8	3
80	Study of Precursorâ€Inks Designed for Highâ€Quality Cu₂ZnSnS₄ Films for Lowâ€Cost PV Application. ChemistrySelect, 2019, 4, 4905-4912.	1.5	3
81	Annealing of Boron-Doped Hydrogenated Crystalline Silicon Grown at Low Temperature by PECVD. Materials, 2019, 12, 3795.	2.9	3
82	Two-Step Synthesis of Bismuth-Based Hybrid Halide Perovskite Thin-Films. Materials, 2021, 14, 7827.	2.9	3
83	Rod-like defects in CZ-Si investigated by spin resonance and photoluminescence spectroscopies. Physica Status Solidi C: Current Topics in Solid State Physics, 2005, 2, 1807-1811.	0.8	2
84	Impact of Extended Defects on the Electrical Properties of Solar Grade Multicrystalline Silicon for Solar Cell Application. Solid State Phenomena, 2007, 131-133, 419-424.	0.3	2
85	Enhancement of silicon solar cell performances due to light trapping by colloidal metal nanoparticles. Journal of Physics and Chemistry of Solids, 2011, 73, 143-143.	4.0	2
86	Cu(In,Ga)Se2 hybrid sputtering/evaporation deposition for thin film solar cells application. , 2012, , .		2
87	Cu2ZnSnSe4 device obtained by formate chemistry for metallic precursor layer fabrication. Solar Energy, 2015, 116, 287-292.	6.1	2
88	About a Novel Gettering Procedure for Multicrystalline Silicon Samples. Solid State Phenomena, 1996, 51-52, 485-490.	0.3	1
89	Electrical and Optical Characterization of Electron Irradiated X Rays Detectors Based on 4H-SiC Epitaxial Layers. Materials Science Forum, 2004, 457-460, 1503-1506.	0.3	1
90	Advances in Structural Characterization of Thin Film Nanocrystalline Silicon for Photovoltaic Applications. Solid State Phenomena, 2008, 131-133, 33-38.	0.3	1

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91	Electrical and structural properties of p â€type nanocrystalline silicon grown by LEPECVD for photovoltaic applications. Physica Status Solidi C: Current Topics in Solid State Physics, 2010, 7, 712-715.	0.8	1
92	Assessment of the composition of Silicon-Rich Oxide films for photovoltaic applications by optical techniques. Energy Procedia, 2011, 10, 28-32.	1.8	1
93	Role of carbon content in tuning the physical quantities of a-Si1-xCx:H alloys deposited by PECVD. Physica Status Solidi C: Current Topics in Solid State Physics, 2011, 8, 800-803.	0.8	1
94	Silicon samples grown under reduced melt convection. Journal of Crystal Growth, 2015, 417, 9-15.	1.5	1
95	Theoretical and experimental investigation of UVâ€“Vis absorption spectrum in a Eu(3+) based complex for luminescent downshifting applications. Theoretical Chemistry Accounts, 2017, 136, 1.	1.4	1
96	Comparison of MgCl2and CdCl2 Activation Treatment for CDTE Solar Cells: Recrystallization and Defects. , 2017, , .		1
97	Insights into Bulk Defects in n-type Monocrystalline Silicon Wafers via Temperature-Dependent Micro-Photoluminescence Spectroscopy. , 2018, , .		1
98	Measurement of the limiting subcell in multijunction space solar devices by restrictedâ€wavelengthâ€range illumination. Progress in Photovoltaics: Research and Applications, 2018, 26, 942-948.	8.1	1
99	Effect of Local Inhomogeneities on the Electrical Properties of Polycrystalline Silicon. Solid State Phenomena, 1994, 37-38, 219-224.	0.3	0
100	Analysis of Extended Defects in 6H-SiC Using Photoluminescence and Light Beam Induced Current Spectroscopy. Materials Science Forum, 2003, 433-436, 317-320.	0.3	0
101	Silicon-Based Photovoltaics. Series in Optics and Optoelectronics, 2013, , 749-812.	0.0	0
102	Structural and photoconductivity properties of silicon carbon thin films. Physica Status Solidi C: Current Topics in Solid State Physics, 2014, 11, 1669-1673.	0.8	0
103	Chapter 1 Purity Requirements for Silicon in Photovoltaic Applications. , 2016, , 1-48.		0
104	A European proficiency test on thinâ€film tandem photovoltaic devices. Progress in Photovoltaics: Research and Applications, 2020, 28, 1258-1276.	8.1	0
105	Random Surface Texturing of mc-Silicon for Solar Cells with Picosecond Lasers; a Comparison between 1064 nm, 532 nm and 355 nm Laser Emission Wavelengths. , 2015, , .		0