Alessia Le Donne

List of Publications by Year
in descending order

74	1,090	394390 19	477281 29
papers	citations	h-index	g-index

75	75	75	1406
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	New Earth-Abundant Thin Film Solar Cells Based on Chalcogenides. Frontiers in Chemistry, 2019, 7, 297.	3.6	77
2	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
3	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
4	Optimized luminescence properties of Mn doped ZnS nanoparticles for photovoltaic applications. Journal of Applied Physics, 2013, 113, .	2.5	44
5	Cu2ZnSnS4 solar cells grown by sulphurisation of sputtered metal precursors. Thin Solid Films, 2013, 542, 114-118.	1.8	43
6	Rare earth organic complexes as down-shifters to improve Si-based solar cell efficiency. Optical Materials, 2011, 33, 1012-1014.	3.6	42
7	About the D1 and D2 Dislocation Luminescence and Its Correlation with Oxygen Segregation. Physica Status Solidi (B): Basic Research, 2000, 222, 141-150.	1.5	35
8	Growth of Cu2MnSnS4 PV absorbers by sulfurization of evaporated precursors. Journal of Alloys and Compounds, 2017, 693, 95-102.	5.5	34
9	Relevant efficiency enhancement of emerging Cu 2 MnSnS 4 thin film solar cells by low temperature annealing. Solar Energy, 2017, 149, 125-131.	6.1	33
10	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
11	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
12	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
13	Concentration quenching and photostability in Eu(dbm)3phen embedded in mesoporous silica nanoparticles. Journal of Luminescence, 2014, 146, 178-185.	3.1	30
14	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
15	Structural characterization of nc-Si films grown by low-energy PECVD on different substrates. Applied Surface Science, 2008, 254, 2804-2808.	6.1	25
16	CZTS thin film solar cells on flexible Molybdenum foil by electrodeposition-annealing route. Journal of Applied Electrochemistry, 2021, 51, 209-218.	2.9	23
17	On the nature of striations in n-type silicon solar cells. Applied Physics Letters, 2016, 109, .	3.3	21
18	Study of the physical properties of ZnS thin films deposited by RF sputtering. Materials Science in Semiconductor Processing, 2017, 71, 7-11.	4.0	21

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19	Dislocation luminescence in nitrogen-doped Czochralski and float zone silicon. Journal of Physics Condensed Matter, 2002, 14, 13247-13254.	1.8	20
20	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
21	Key Success Factors and Future Perspective of Silicon-Based Solar Cells. International Journal of Photoenergy, 2013, 2013, 1-6.	2.5	20
22	Effects of CdS Buffer Layers on Photoluminescence Properties of Cu₂ZnSnS₄Solar Cells. International Journal of Photoenergy, 2015, 2015, 1-8.	2.5	17
23	Fabricating Cu(In,Ga)Se₂solar cells on flexible substrates by a new roll-to-roll deposition system suitable for industrial applications. Semiconductor Science and Technology, 2015, 30, 105006.	2.0	17
24	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
25	Effect of Co-Electrodeposited Cu-Zn-Sn Precursor Compositions on Sulfurized CZTS Thin Films for Solar Cell. ECS Transactions, 2015, 64, 33-41.	0.5	15
26	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
27	Co-Electrodeposition of Metallic Precursors for the Fabrication of CZTSe Thin Films Solar Cells on Flexible Mo Foil. Journal of the Electrochemical Society, 2017, 164, D302-D306.	2.9	14
28	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
29	Optical spectroscopy study of type 1 natural and synthetic sapphires. Journal of Physics Condensed Matter, 2008, 20, 125228.	1.8	13
30	Hybrid sputtering/evaporation deposition of Cu(In,Ga)Se2 thin film solar cells. Energy Procedia, 2011, 10, 138-143.	1.8	13
31	CIGS thin films grown by hybrid sputtering-evaporation method: Properties and PV performance. Solar Energy, 2018, 175, 16-24.	6.1	13
32	Kesterite solar-cells by drop-casting of inorganic solâ€“gel inks. Solar Energy, 2020, 208, 532-538.	6.1	13
33	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
34	Optical properties of shuffle dislocations in silicon. Applied Physics Letters, 2006, 88, 211910.	3.3	12
35	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
36	In-depth photoluminescence spectra of pure CIGS thin films. Applied Optics, 2018, 57, 1849.	1.8	12

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37	Photoconductivity of tellurium-poly(methyl methacrylate) in the ultravioletâ€“visible-near infrared range. Applied Surface Science, 2018, 457, 229-234.	6.1	12
38	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
39	A chemical deposition process for low-cost CZTS solar cell on flexible substrates. Materials Technology, 2017, 32, 251-255.	3.0	11
40	Structural Homogeneity of nc-Si Films Grown by Low-Energy PECVD. Electrochemical and Solid-State Letters, 2008, 11, P5.	2.2	10
41	Optical and electrical characterization of AlGaInP solar cells. Solar Energy Materials and Solar Cells, 2010, 94, 2002-2006.	6.2	10
42	Effects of low-temperature annealing on polycrystalline silicon for solar cells. Solar Energy Materials and Solar Cells, 2011, 95, 559-563.	6.2	9
43	Effect of high pressure isostatic annealing on oxygen segregation in Czochralski silicon. Journal of Applied Physics, 2003, 94, 7476.	2.5	8
44	Silicon Carbide for Alpha, Beta, Ion and Soft X-Ray High Performance Detectors. Materials Science Forum, 2005, 483-485, 1015-1020.	0.3	7
45	State of the Art and Perspectives of Inorganic Photovoltaics. , 2013, 2013, 1-8.		6
46	Semi-transparent Cu2ZnSnS4 solar cells by drop-casting of sol-gel ink. Solar Energy, 2021, 224, 134-141.	6.1	6
47	Radiative recombination processes of thermal donors in silicon. Materials Research Society Symposia Proceedings, 2001, 692, 1.	0.1	5
48	Beam Injection Studies of Dislocations and Oxygen Precipitates in Semiconductor Silicon. Solid State Phenomena, 2001, 78-79, 57-64.	0.3	5
49	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
50	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
51	Effect of heat treatment on the optical and electrical properties of nitrogen-doped silicon samples. Microelectronic Engineering, 2003, 66, 297-304.	2.4	4
52	Electric-dipole spin-resonance signals related to extended interstitial agglomerates in silicon. Journal of Applied Physics, 2005, 98, 043507.	2.5	4
53	Defect studies on silicon and siliconâ€“germanium for PV and optoelectronic applications. Materials Science in Semiconductor Processing, 2006, 9, 66-73.	4.0	4
54	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

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55	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
56	Annealing of Boron-Doped Hydrogenated Crystalline Silicon Grown at Low Temperature by PECVD. Materials, 2019, 12, 3795.	2.9	3
57	Structural Characterization of Nanocrystalline Silicon Layers Grown by LEPECVD for Optoelectronic Applications. Springer Proceedings in Physics, 2008, , 305-308.	0.2	3
58	Solar Photovoltaics: A Review. Reviews in Advanced Sciences and Engineering, 2013, 2, 170-178.	0.6	3
59	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
60	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
61	Cu(In,Ga)Se2 hybrid sputtering/evaporation deposition for thin film solar cells application. , 2012, , .		2
62	Advances in Structural Characterization of Thin Film Nanocrystalline Silicon for Photovoltaic Applications. Solid State Phenomena, 2008, 131-133, 33-38.	0.3	1
63	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
64	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
65	Silicon samples grown under reduced melt convection. Journal of Crystal Growth, 2015, 417, 9-15.	1.5	1
66	Tellurium-based nanocomposites for plastic electronic applications. AIP Conference Proceedings, 2016, , .	0.4	1
67	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
68	Comparison of MgCl2and CdCl2 Activation Treatment for CDTE Solar Cells: Recrystallization and Defects. , 2017, , .		1
69	Effect of pressure-enhanced single step annealing on the silicon photoluminescence. Materials Research Society Symposia Proceedings, 2002, 744, 1.	0.1	0
70	Hydrogenated Nanocrystalline Silicon Investigated by Conductive Atomic Force Microscopy. Springer Proceedings in Physics, 2008, , 301-304.	0.2	0
71	Phenomenological model of nanocrystalline silicon film formation by plasma-enhanced chemical vapor deposition. Optoelectronics, Instrumentation and Data Processing, 2009, 45, 322-327.	0.6	0
72	Silicon-Based Photovoltaics. Series in Optics and Optoelectronics, 2013, , 749-812.	0.0	0

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73	Introduction to the Special Issue: At the Border Among Science, Engineering and Economy: Which Is the Room for Renewable Energy?. Reviews in Advanced Sciences and Engineering, 2013, 2, 168-169.	0.6	0
74	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