Marcel Placidi

List of Publications by Year
in descending order

108 papers	3,456 citations	172457 29 h-index	149698 56 g-index
110 all docs	110 docs citations	110 times ranked	3008 citing authors

#	Article	IF	Citations
1	Numerical Investigation of Interface Passivation Strategies for Sb₂Se₃/CdS Solar Cells. Solar Rrl, 2022, 6, 2100911.	5.8	2
2	Controlling the Anionic Ratio and Gradient in Kesterite Technology. ACS Applied Materials & Interfaces, 2022, 14, 1177-1186.	8.0	16
3	Characterization of the Stability of Indium Tin Oxide and Functional Layers for Semitransparent Backâ€Contact Applications on Cu(in,Ga)Se₂ Solar Cells. Solar Rrl, 2022, 6, .	5.8	8
4	Does Sb₂Se₃ Admit Nonstoichiometric Conditions? How Modifying the Overall Se Content Affects the Structural, Optical, and Optoelectronic Properties of Sb₂Se₃ Thin Films. ACS Applied Materials & Interfaces, 2022, 14, 11222-11234.	8.0	17
5	Life cycle assessment of different chalcogenide thin-film solar cells. Applied Energy, 2022, 313, 118888.	10.1	13
6	Kinetics and phase analysis of kesterite compounds: Influence of chalcogen availability in the reaction pathway. Materialia, 2022, 24, 101509.	2.7	2
7	Defect depth-profiling in kesterite absorber by means of chemical etching and surface analysis. Applied Surface Science, 2021, 540, 148342.	6.1	6
8	Electron beam lithography for direct patterning of MoS₂ on PDMS substrates. RSC Advances, 2021, 11, 19908-19913.	3.6	5
9	The effect of annealing temperature on Cu₂ZnGeSe₄ thin films and solar cells grown on transparent substrates. JPhys Materials, 2021, 4, 034009.	4.2	4
10	Feasibility of a Full Chalcopyrite Tandem Solar Cell: A Quantitative Numerical Approach. Solar Rrl, 2021, 5, 2100202.	5.8	4
11	Wide bandgap CIGSe solar cells on transparent substrates above 10% efficiency. , 2021, , .		0
12	Bromine etching of kesterite thin films: perspectives in depth defect profiling and device performance improvement. , 2021, , .		1
13	Insights into interface and bulk defects in a high efficiency kesterite-based device. Energy and Environmental Science, 2021, 14, 507-523.	30.8	48
14	Structural and vibrational properties of Î±- and Ï€-SnS polymorphs for photovoltaic applications. Acta Materialia, 2020, 183, 1-10.	7.9	43
15	Rear Band gap Grading Strategies on Snâ€“Ge-Alloyed Kesterite Solar Cells. ACS Applied Energy Materials, 2020, 3, 10362-10375.	5.1	29
16	Cu-Sn-S system: Vibrational properties and coexistence of the Cu2SnS3, Cu3SnS4 and Cu4SnS4 compounds. Scripta Materialia, 2020, 186, 180-184.	5.2	15
17	Effect of Na and the back contact on Cu2Zn(Sn,Ge)Se4 thin-film solar cells: Towards semi-transparent solar cells. Solar Energy, 2020, 206, 555-563.	6.1	11
18	Transition-Metal Oxides for Kesterite Solar Cells Developed on Transparent Substrates. ACS Applied Materials & Interfaces, 2020, 12, 33656-33669.	8.0	29

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19	CZTS solar cells and the possibility of increasing VOC using evaporated Al2O3 at the CZTS/CdS interface. Solar Energy, 2020, 198, 696-703.	6.1	28
20	Efficient Seâ€Rich Sb₂Se₃/CdS Planar Heterojunction Solar Cells by Sequential Processing: Control and Influence of Se Content. Solar Rrl, 2020, 4, 2000141.	5.8	23
21	Fracturing of Polycrystalline MoS2 Nanofilms. ACS Applied Electronic Materials, 2020, 2, 1169-1175.	4.3	10
22	Over 10% Efficient Wide Bandgap CIGSe Solar Cells on Transparent Substrate with Na Predeposition Treatment. Solar Rrl, 2020, 4, 2000284.	5.8	8
23	Is It Possible To Develop Complex Sâ€“Se Graded Band Gap Profiles in Kesterite-Based Solar Cells?. ACS Applied Materials & Interfaces, 2019, 11, 32945-32956.	8.0	42
24	Multiwavelength excitation Raman scattering study of Sb ₂ Se ₃ compound: fundamental vibrational properties and secondary phases detection. 2D Materials, 2019, 6, 045054.	4.4	69
25	Kesterite: New Progress Toward Earth-Abundant Thin-Film Photovoltaic. , 2019, , 93-120.		3
26	Doping and alloying of kesterites. JPhys Energy, 2019, 1, 044004.	5.3	102
27	CuZnInSe₃â€based solar cells: Impact of copper concentration on vibrational and structural properties and device performance. Progress in Photovoltaics: Research and Applications, 2019, 27, 716-723.	8.1	7
28	Progress and Perspectives of Thin Film Kesterite Photovoltaic Technology: A Critical Review. Advanced Materials, 2019, 31, e1806692.	21.0	333
29	Numerical modeling and experimental realization of wide bandgap ZnTe-based solar cells for semi-transparent PV application. , 2019, , .		0
30	Insights into the Formation Pathways of Cu₂ZnSnSe₄ Using Rapid Thermal Processes. ACS Applied Energy Materials, 2018, 1, 1981-1989.	5.1	16
31	How small amounts of Ge modify the formation pathways and crystallization of kesterites. Energy and Environmental Science, 2018, 11, 582-593.	30.8	169
32	C<scp>ZTS</scp>e solar cells developed on polymer substrates: Effects of lowâ€temperature processing. Progress in Photovoltaics: Research and Applications, 2018, 26, 55-68.	8.1	23
33	Optimization of ink-jet printed precursors for Cu2ZnSn(S,Se)4 solar cells. Journal of Alloys and Compounds, 2018, 735, 2462-2470.	5.5	16
34	Theoretical and Experimental Study of Phonon Spectra of Bulk and Nano-Sized MoS2 Layer Crystals. Nanoscale Research Letters, 2017, 12, 82.	5.7	5
35	Record Low Thermal Conductivity of Polycrystalline MoS₂ Films: Tuning the Thermal Conductivity by Grain Orientation. ACS Applied Materials & Interfaces, 2017, 9, 37905-37911.	8.0	35
36	Bifacial Kesterite Solar Cells on FTO Substrates. ACS Sustainable Chemistry and Engineering, 2017, 5, 11516-11524.	6.7	45

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37	Elastic Properties of Few Nanometers Thick Polycrystalline MoS₂ Membranes: A Nondestructive Study. Nano Letters, 2017, 17, 7647-7651.	9.1	22
38	Advanced hybrid buffer layers for Cu<inf>2</inf>ZnSnSe<inf>4</inf> solar cells. , 2016, , .		1
39	Enhancing grain growth and boosting Voc in CZTSe absorber layers â€" Is Ge doping the answer?. , 2016, , .		1
40	Selenization of Cu2ZnSnS4 thin films obtained by pneumatic spray pyrolysis. Journal of Analytical and Applied Pyrolysis, 2016, 120, 45-51.	5.5	11
41	Vitreous enamel as sodium source for efficient kesterite solar cells on commercial ceramic tiles. Solar Energy Materials and Solar Cells, 2016, 154, 11-17.	6.2	10
42	V_{oc} Boosting and Grain Growth Enhancing Ge-Doping Strategy for Cu₂ZnSnSe₄ Photovoltaic Absorbers. Journal of Physical Chemistry C, 2016, 120, 9661-9670.	3.1	69
43	Cu₂ZnSnSe₄-Based Solar Cells With Efficiency Exceeding 10% by Adding a Superficial Ge Nanolayer: The Interaction Between Ge and Na. IEEE Journal of Photovoltaics, 2016, 6, 754-759.	2.5	28
44	Thermal conductivity of MoS ₂ polycrystalline nanomembranes. 2D Materials, 2016, 3, 035016.	4.4	37
45	The importance of back contact modification in Cu2ZnSnSe4 solar cells: The role of a thin MoO2 layer. Nano Energy, 2016, 26, 708-721.	16.0	77
46	Ultra-thin CdS for highly performing chalcogenides thin film based solar cells. Solar Energy Materials and Solar Cells, 2016, 158, 138-146.	6.2	31
47	Alkali doping strategies for flexible and light-weight Cu₂ZnSnSe₄ solar cells. Journal of Materials Chemistry A, 2016, 4, 1895-1907.	10.3	88
48	Optical and electrical properties of In-doped Cu2ZnSnSe4. Solar Energy Materials and Solar Cells, 2016, 151, 44-51.	6.2	19
49	Effect of rapid thermal annealing on the Mo back contact properties for Cu2ZnSnSe4 solar cells. Journal of Alloys and Compounds, 2016, 675, 158-162.	5.5	14
50	Efficient bifacial Cu2ZnSnSe4 solar cells. , 2015, , .		3
51	High efficiency Cu2ZnSnSe4:In doped based solar cells. , 2015, , .		1
52	Cu2ZnSnSe4 based solar cells prepared at high temperatures on Si/SiO2 sodium-free substrate. , 2015, , .		0
53	Large Efficiency Improvement in Cu₂ZnSnSe₄ Solar Cells by Introducing a Superficial Ge Nanolayer. Advanced Energy Materials, 2015, 5, 1501070.	19.5	188
54	Large performance improvement in Cu2ZnSnSe4 based solar cells by surface engineering with a nanometric Ge layer. , 2015, , .		4

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55	Optimization of CdS buffer layer for highâ€performance Cu₂ZnSnSe₄ solar cells and the effects of light soaking: elimination of crossover and red kink. Progress in Photovoltaics: Research and Applications, 2015, 23, 1660-1667.	8.1	110
56	Non-destructive assessment of ZnO:Al window layers in advanced Cu(In,Ga)Se₂photovoltaic technologies. Physica Status Solidi (A) Applications and Materials Science, 2015, 212, 56-60.	1.8	12
57	Complex Surface Chemistry of Kesterites: Cu/Zn Reordering after Low Temperature Postdeposition Annealing and Its Role in High Performance Devices. Chemistry of Materials, 2015, 27, 5279-5287.	6.7	99
58	Nanoscale conductive pattern of the homoepitaxial AlGaN/GaN transistor. Nanotechnology, 2015, 26, 115203.	2.6	14
59	Multiwavelength excitation Raman scattering analysis of bulk and two-dimensional MoS ₂ : vibrational properties of atomically thin MoS ₂ layers. 2D Materials, 2015, 2, 035006.	4.4	97
60	Spray-deposited CuIn_{1â^'x} Ga_x Se₂ solar cell absorbers: Influence of spray deposition parameters and crystallization promoters. Physica Status Solidi (A) Applications and Materials Science, 2015, 212, 67-71.	1.8	7
61	CuIn1â^'Al Se2 thin film solar cells with depth gradient composition prepared by selenization of evaporated metallic precursors. Solar Energy Materials and Solar Cells, 2015, 132, 245-251.	6.2	22
62	Fabrication and characterization of kesterite Cu₂ZnSnS₄thin films deposited by electrostatic spray assisted vapour deposition method. Physica Status Solidi (A) Applications and Materials Science, 2015, 212, 135-139.	1.8	10
63	Secondary phase formation in Znâ€rich Cu₂ZnSnSe₄â€based solar cells annealed in low pressure and temperature conditions. Progress in Photovoltaics: Research and Applications, 2014, 22, 479-487.	8.1	97
64	Earth-abundant absorber based solar cells onto low weight stainless steel substrate. Solar Energy Materials and Solar Cells, 2014, 130, 347-353.	6.2	33
65	Pneumatically sprayed Cu₂ZnSnS₄films under Ar and Arâ€“H₂atmosphere. Journal Physics D: Applied Physics, 2014, 47, 245101.	2.8	17
66	ZnSe Etching of Znâ€Rich Cu₂ZnSnSe₄: An Oxidation Route for Improved Solarâ€Cell Efficiency. Chemistry - A European Journal, 2013, 19, 14814-14822.	3.3	118
67	A thermal route to synthesize photovoltaic grade CuInSe2 films from printed CuO/In2O3 nanoparticle-based inks under Se atmosphere. Journal of Renewable and Sustainable Energy, 2013, 5, 053140.	2.0	4
68	Selective detection of secondary phases in Cu<inf>2</inf>ZnSn(S, Se)<inf>4</inf> based absorbers by pre-resonant Raman spectroscopy. , 2013, , .		12
69	Modelling the metalâ€“semiconductor band structure in implanted ohmic contacts to GaN and SiC. Modelling and Simulation in Materials Science and Engineering, 2013, 21, 035004.	2.0	12
70	Compositional optimization of photovoltaic grade Cu2ZnSnS4 films grown by pneumatic spray pyrolysis. Thin Solid Films, 2013, 535, 67-72.	1.8	66
71	Molecular beam epitaxial AlGaN/GaN high electron mobility transistors leakage thermal activation on silicon and sapphire. Applied Physics Letters, 2013, 102, .	3.3	4
72	On the formation mechanisms of Zn-rich Cu2ZnSnS4 films prepared by sulfurization of metallic stacks. Solar Energy Materials and Solar Cells, 2013, 112, 97-105.	6.2	200

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73	Singleâ€Step Sulfoâ€Selenization Method to Synthesize Cu₂ZnSn(S_ySe_{1â^'y})₄ Absorbers from Metallic Stack Precursors. ChemPhysChem, 2013, 14, 1836-1843.	2.1	54
74	Analysis of the AlGaN/GaN vertical bulk current on Si, sapphire, and free-standing GaN substrates. Journal of Applied Physics, 2013, 113, .	2.5	57
75	Inhibiting the absorber/Mo-back contact decomposition reaction in Cu2ZnSnSe4 solar cells: the role of a ZnO intermediate nanolayer. Journal of Materials Chemistry A, 2013, 1, 8338.	10.3	151
76	Synthesis of CuInSe<SUB align="right">2 nanopowders by microwave assisted solvothermal method. International Journal of Nanotechnology, 2013, 10, 1029.	0.2	1
77	Temperature impact and analytical modeling of the AlGaN/GaN-on-Si saturation drain current and transconductance. Semiconductor Science and Technology, 2012, 27, 125010.	2.0	18
78	Bulk Temperature Impact on the AlGaN/GaN HEMT Forward Current on Si, Sapphire and Free-Standing GaN. ECS Solid State Letters, 2012, 2, P4-P7.	1.4	10
79	Gate current analysis of AlGaN/GaN on silicon heterojunction transistors at the nanoscale. Applied Physics Letters, 2012, 101, 093505.	3.3	18
80	Nanoscale investigation of AlGaN/GaN-on-Si high electron mobility transistors. Nanotechnology, 2012, 23, 395204.	2.6	13
81	Reverse current thermal activation of AlGaN/GaN HEMTs on Si(111). Microelectronics Reliability, 2012, 52, 2547-2550.	1.7	3
82	Micro and nano analysis of 0.2 Î© mm Ti/Al/Ni/Au ohmic contact to AlGaN/GaN. Applied Physics Letters, 2011, 99, 213504.	3.3	47
83	GaN Ohmic contact resistance vs temperature. , 2011, , .		3
84	Temperature dependence of Al/Ti-based Ohmic contact to GaN devices: HEMT and MOSFET. Microelectronic Engineering, 2011, 88, 3140-3144.	2.4	24
85	Temperature behavior and modeling of ohmic contacts to Si+ implanted n-type GaN. Microelectronics Reliability, 2011, 51, 1325-1329.	1.7	7
86	Interfacial Properties of Oxides Grown on 3C-SiC by Rapid Thermal Processing. Journal of the Electrochemical Society, 2011, 158, G13.	2.9	10
87	Interfacial properties of AlN and oxidized AlN on Si. Surface Science, 2010, 604, 63-67.	1.9	11
88	Deposited Thin SiO[sub 2] for Gate Oxide on n-Type and p-Type GaN. Journal of the Electrochemical Society, 2010, 157, H1008.	2.9	20
89	SiC on SOI Resonators: A Route for Electrically Driven MEMS in Harsh Environment. Materials Science Forum, 2010, 645-648, 845-848.	0.3	1
90	Integration of HfO2 on Si/SiC heterojunctions for the gate architecture of SiC power devices. Applied Physics Letters, 2010, 97, 013506.	3.3	8

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91	Effects of Photons on 4H-SiC Rapid Thermal Oxidation Using Nitrous Oxide Gas. Journal of the Electrochemical Society, 2010, 157, G136.	2.9	19
92	3C-SiC films on insulated substrates for high-temperature electrostatic-based resonators. Journal of Micromechanics and Microengineering, 2010, 20, 115007.	2.6	5
93	GaN transistor characteristics at elevated temperatures. Journal of Applied Physics, 2009, 106, .	2.5	67
94	GaN metal-oxide-semiconductor field-effect transistor inversion channel mobility modeling. Journal of Applied Physics, 2009, 105, .	2.5	40
95	Si/SiC bonded wafer: A route to carbon free SiO2 on SiC. Applied Physics Letters, 2009, 94, .	3.3	26
96	Effects of cap layer on ohmic Ti/Al contacts to Si+ implanted GaN. Applied Surface Science, 2009, 255, 6057-6060.	6.1	30
97	Epitaxial aluminium nitride on patterned silicon. Materials Science in Semiconductor Processing, 2009, 12, 31-33.	4.0	2
98	Highly sensitive strained AlN on Si(111) resonators. Sensors and Actuators A: Physical, 2009, 150, 64-68.	4.1	11
99	Ohmic Contacts to implanted GaN. , 2009, , .		1
100	Fabrication of monocrystalline 3Câ€“SiC resonators for MHz frequency sensors applications. Sensors and Actuators B: Chemical, 2008, 133, 276-280.	7.8	28
101	Schottky versus bipolar 3.3 kV SiC diodes. Semiconductor Science and Technology, 2008, 23, 125004.	2.0	26
102	Recent improvements of SiC micro-resonators. Physica Status Solidi C: Current Topics in Solid State Physics, 2007, 4, 1548-1553.	0.8	4
103	Fabrication of electrostatic resonators with monocristaline 3C SiC grown on silicon. , 0, , .		0
104	SiC Freestanding Micromechanical Structures on Silicon-On-Insulator Substrates. Materials Science Forum, 0, 615-617, 617-620.	0.3	1
105	New Generation of SiC Based Biodevices Implemented on 4â€•Wafers. Materials Science Forum, 0, 645-648, 1097-1100.	0.3	9
106	2DEG HEMT Mobility vs Inversion Channel MOSFET Mobility. Materials Science Forum, 0, 645-648, 1207-1210.	0.3	3
107	Characterisation of HfO₂/Si/SiC MOS Capacitors. Materials Science Forum, 0, 679-680, 674-677.	0.3	0
108	Ohmic Contact Resistance to GaN Devices Dependence with on Temperature for GaN Devices T. Materials Science Forum, 0, 679-680, 816-819.	0.3	3