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	Progress and Perspectives of Thin Film Kesterite Photovoltaic Technology: A Critical Review. Advanced Materials, 2019, 31, e1806692.	21.0	333
2	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
3	Large Efficiency Improvement in Cu₂ZnSnSe₄ Solar Cells by Introducing a Superficial Ge Nanolayer. Advanced Energy Materials, 2015, 5, 1501070.	19.5	188
4	How small amounts of Ge modify the formation pathways and crystallization of kesterites. Energy and Environmental Science, 2018, 11, 582-593.	30.8	169
5	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
6	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
7	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
8	Doping and alloying of kesterites. JPhys Energy, 2019, 1, 044004.	5.3	102
9	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
10	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
11	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
12	Alkali doping strategies for flexible and light-weight Cu₂ZnSnSe₄ solar cells. Journal of Materials Chemistry A, 2016, 4, 1895-1907.	10.3	88
13	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
14	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
15	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
16	GaN transistor characteristics at elevated temperatures. Journal of Applied Physics, 2009, 106, .	2.5	67
17	Compositional optimization of photovoltaic grade Cu2ZnSnS4 films grown by pneumatic spray pyrolysis. Thin Solid Films, 2013, 535, 67-72.	1.8	66
18	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

#	Article	IF	Citations
19	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
20	Insights into interface and bulk defects in a high efficiency kesterite-based device. Energy and Environmental Science, 2021, 14, 507-523.	30.8	48
21	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
22	Bifacial Kesterite Solar Cells on FTO Substrates. ACS Sustainable Chemistry and Engineering, 2017, 5, 11516-11524.	6.7	45
23	Structural and vibrational properties of Î±- and Ï€-SnS polymorphs for photovoltaic applications. Acta Materialia, 2020, 183, 1-10.	7.9	43
24	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
25	GaN metal-oxide-semiconductor field-effect transistor inversion channel mobility modeling. Journal of Applied Physics, 2009, 105, .	2.5	40
26	Thermal conductivity of MoS ₂ polycrystalline nanomembranes. 2D Materials, 2016, 3, 035016.	4.4	37
27	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
28	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
29	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
30	Effects of cap layer on ohmic Ti/Al contacts to Si+ implanted GaN. Applied Surface Science, 2009, 255, 6057-6060.	6.1	30
31	Rear Band gap Grading Strategies on Snâ€“Ge-Alloyed Kesterite Solar Cells. ACS Applied Energy Materials, 2020, 3, 10362-10375.	5.1	29
32	Transition-Metal Oxides for Kesterite Solar Cells Developed on Transparent Substrates. ACS Applied Materials & Interfaces, 2020, 12, 33656-33669.	8.0	29
33	Fabrication of monocrystalline 3Câ€“SiC resonators for MHz frequency sensors applications. Sensors and Actuators B: Chemical, 2008, 133, 276-280.	7.8	28
34	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
35	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
36	Schottky versus bipolar 3.3 kV SiC diodes. Semiconductor Science and Technology, 2008, 23, 125004.	2.0	26

#	Article	IF	Citations
37	Si/SiC bonded wafer: A route to carbon free SiO2 on SiC. Applied Physics Letters, 2009, 94, .	3.3	26
38	Temperature dependence of Al/Ti-based Ohmic contact to GaN devices: HEMT and MOSFET. Microelectronic Engineering, 2011, 88, 3140-3144.	2.4	24
39	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
40	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
41	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
42	Elastic Properties of Few Nanometers Thick Polycrystalline MoS₂ Membranes: A Nondestructive Study. Nano Letters, 2017, 17, 7647-7651.	9.1	22
43	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
44	Effects of Photons on 4H-SiC Rapid Thermal Oxidation Using Nitrous Oxide Gas. Journal of the Electrochemical Society, 2010, 157, G136.	2.9	19
45	Optical and electrical properties of In-doped Cu2ZnSnSe4. Solar Energy Materials and Solar Cells, 2016, 151, 44-51.	6.2	19
46	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
47	Gate current analysis of AlGaN/GaN on silicon heterojunction transistors at the nanoscale. Applied Physics Letters, 2012, 101, 093505.	3.3	18
48	Pneumatically sprayed Cu₂ZnSnS₄films under Ar and Arâ€“H₂atmosphere. Journal Physics D: Applied Physics, 2014, 47, 245101.	2.8	17
49	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
50	Insights into the Formation Pathways of Cu₂ZnSnSe₄ Using Rapid Thermal Processes. ACS Applied Energy Materials, 2018, 1, 1981-1989.	5.1	16
51	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
52	Controlling the Anionic Ratio and Gradient in Kesterite Technology. ACS Applied Materials & Interfaces, 2022, 14, 1177-1186.	8.0	16
53	Cu-Sn-S system: Vibrational properties and coexistence of the Cu2SnS3, Cu3SnS4 and Cu4SnS4 compounds. Scripta Materialia, 2020, 186, 180-184.	5.2	15
54	Nanoscale conductive pattern of the homoepitaxial AlGaN/GaN transistor. Nanotechnology, 2015, 26, 115203.	2.6	14

#	Article	IF	Citations
55	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
56	Nanoscale investigation of AlGaN/GaN-on-Si high electron mobility transistors. Nanotechnology, 2012, 23, 395204.	2.6	13
57	Life cycle assessment of different chalcogenide thin-film solar cells. Applied Energy, 2022, 313, 118888.	10.1	13
58	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
59	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
60	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
61	Highly sensitive strained AlN on Si(111) resonators. Sensors and Actuators A: Physical, 2009, 150, 64-68.	4.1	11
62	Interfacial properties of AlN and oxidized AlN on Si. Surface Science, 2010, 604, 63-67.	1.9	11
63	Selenization of Cu2ZnSnS4 thin films obtained by pneumatic spray pyrolysis. Journal of Analytical and Applied Pyrolysis, 2016, 120, 45-51.	5.5	11
64	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
65	Interfacial Properties of Oxides Grown on 3C-SiC by Rapid Thermal Processing. Journal of the Electrochemical Society, 2011, 158, G13.	2.9	10
66	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
67	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
68	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
69	Fracturing of Polycrystalline MoS2 Nanofilms. ACS Applied Electronic Materials, 2020, 2, 1169-1175.	4.3	10
70	New Generation of SiC Based Biodevices Implemented on 4â€•Wafers. Materials Science Forum, 0, 645-648, 1097-1100.	0.3	9
71	Integration of HfO2 on Si/SiC heterojunctions for the gate architecture of SiC power devices. Applied Physics Letters, 2010, 97, 013506.	3.3	8
72	Over 10% Efficient Wide Bandgap CIGSe Solar Cells on Transparent Substrate with Na Predeposition Treatment. Solar Rrl, 2020, 4, 2000284.	5.8	8

#	Article	IF	Citations
73	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
74	Temperature behavior and modeling of ohmic contacts to Si+ implanted n-type GaN. Microelectronics Reliability, 2011, 51, 1325-1329.	1.7	7
75	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
76	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
77	Defect depth-profiling in kesterite absorber by means of chemical etching and surface analysis. Applied Surface Science, 2021, 540, 148342.	6.1	6
78	3C-SiC films on insulated substrates for high-temperature electrostatic-based resonators. Journal of Micromechanics and Microengineering, 2010, 20, 115007.	2.6	5
79	Theoretical and Experimental Study of Phonon Spectra of Bulk and Nano-Sized MoS2 Layer Crystals. Nanoscale Research Letters, 2017, 12, 82.	5.7	5
80	Electron beam lithography for direct patterning of MoS₂ on PDMS substrates. RSC Advances, 2021, 11, 19908-19913.	3.6	5
81	Recent improvements of SiC micro-resonators. Physica Status Solidi C: Current Topics in Solid State Physics, 2007, 4, 1548-1553.	0.8	4
82	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
83	Molecular beam epitaxial AlGaN/GaN high electron mobility transistors leakage thermal activation on silicon and sapphire. Applied Physics Letters, 2013, 102, .	3.3	4
84	Large performance improvement in Cu2ZnSnSe4 based solar cells by surface engineering with a nanometric Ge layer. , 2015, , .		4
85	The effect of annealing temperature on Cu₂ZnGeSe₄ thin films and solar cells grown on transparent substrates. JPhys Materials, 2021, 4, 034009.	4.2	4
86	Feasibility of a Full Chalcopyrite Tandem Solar Cell: A Quantitative Numerical Approach. Solar Rrl, 2021, 5, 2100202.	5.8	4
87	2DEG HEMT Mobility vs Inversion Channel MOSFET Mobility. Materials Science Forum, 0, 645-648, 1207-1210.	0.3	3
88	GaN Ohmic contact resistance vs temperature. , 2011, , .		3
89	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
90	Reverse current thermal activation of AlGaN/GaN HEMTs on Si(111). Microelectronics Reliability, 2012, 52, 2547-2550.	1.7	3

#	Article	IF	Citations
91	Efficient bifacial Cu2ZnSnSe4 solar cells. , 2015, , .		3
92	Kesterite: New Progress Toward Earth-Abundant Thin-Film Photovoltaic. , 2019, , 93-120.		3
93	Epitaxial aluminium nitride on patterned silicon. Materials Science in Semiconductor Processing, 2009, 12, 31-33.	4.0	2
94	Numerical Investigation of Interface Passivation Strategies for Sb₂Se₃/CdS Solar Cells. Solar Rrl, 2022, 6, 2100911.	5.8	2
95	Kinetics and phase analysis of kesterite compounds: Influence of chalcogen availability in the reaction pathway. Materialia, 2022, 24, 101509.	2.7	2
96	SiC Freestanding Micromechanical Structures on Silicon-On-Insulator Substrates. Materials Science Forum, 0, 615-617, 617-620.	0.3	1
97	Ohmic Contacts to implanted GaN. , 2009, , .		1
98	SiC on SOI Resonators: A Route for Electrically Driven MEMS in Harsh Environment. Materials Science Forum, 2010, 645-648, 845-848.	0.3	1
99	Synthesis of CuInSe<SUB align="right">2 nanopowders by microwave assisted solvothermal method. International Journal of Nanotechnology, 2013, 10, 1029.	0.2	1
100	High efficiency Cu2ZnSnSe4:In doped based solar cells. , 2015, , .		1
101	Advanced hybrid buffer layers for Cu<inf>2</inf>ZnSnSe<inf>4</inf> solar cells. , 2016, , .		1
102	Enhancing grain growth and boosting Voc in CZTSe absorber layers â€" Is Ge doping the answer?. , 2016, , .		1
103	Bromine etching of kesterite thin films: perspectives in depth defect profiling and device performance improvement. , 2021, , .		1
104	Fabrication of electrostatic resonators with monocristaline 3C SiC grown on silicon. , 0, , .		0
105	Characterisation of HfO₂/Si/SiC MOS Capacitors. Materials Science Forum, 0, 679-680, 674-677.	0.3	0
106	Cu2ZnSnSe4 based solar cells prepared at high temperatures on Si/SiO2 sodium-free substrate. , 2015, , .		0
107	Numerical modeling and experimental realization of wide bandgap ZnTe-based solar cells for semi-transparent PV application. , 2019, , .		0
108	Wide bandgap CIGSe solar cells on transparent substrates above 10% efficiency. , 2021, , .		0