JosÃ© A MÃ¡rquez

List of Publications by Year
in descending order

39 papers	4,978 citations	279701 23 h-index	330025 37 g-index
40 all docs	40 docs citations	40 times ranked	5076 citing authors

#	Article	IF	Citations
1	Monolithic perovskite/silicon tandem solar cell with >29% efficiency by enhanced hole extraction. Science, 2020, 370, 1300-1309.	6.0	1,120
2	Visualization and suppression of interfacial recombination for high-efficiency large-area pin perovskite solar cells. Nature Energy, 2018, 3, 847-854.	19.8	721
3	The impact of energy alignment and interfacial recombination on the internal and external open-circuit voltage of perovskite solar cells. Energy and Environmental Science, 2019, 12, 2778-2788.	15.6	570
4	Conformal monolayer contacts with lossless interfaces for perovskite single junction and monolithic tandem solar cells. Energy and Environmental Science, 2019, 12, 3356-3369.	15.6	519
5	Photoluminescenceâ€Based Characterization of Halide Perovskites for Photovoltaics. Advanced Energy Materials, 2020, 10, 1904134.	10.2	299
6	Open-Circuit Voltages Exceeding 1.26 V in Planar Methylammonium Lead Iodide Perovskite Solar Cells. ACS Energy Letters, 2019, 4, 110-117.	8.8	296
7	21.6%-Efficient Monolithic Perovskite/Cu(In,Ga)Se₂ Tandem Solar Cells with Thin Conformal Hole Transport Layers for Integration on Rough Bottom Cell Surfaces. ACS Energy Letters, 2019, 4, 583-590.	8.8	155
8	The Doping Mechanism of Halide Perovskite Unveiled by Alkaline Earth Metals. Journal of the American Chemical Society, 2020, 142, 2364-2374.	6.6	132
9	Synergistic Effects of Double Cation Substitution in Solutionâ€Processed CZTS Solar Cells with over 10% Efficiency. Advanced Energy Materials, 2018, 8, 1802540.	10.2	113
10	Low Temperature Synthesis of Stable Î³â€CsPbI₃ Perovskite Layers for Solar Cells Obtained by High Throughput Experimentation. Advanced Energy Materials, 2019, 9, 1900555.	10.2	108
11	Upper limit to the photovoltaic efficiency of imperfect crystals from first principles. Energy and Environmental Science, 2020, 13, 1481-1491.	15.6	107
12	Highâ€Efficiency (Li_xCu_{1â^'}_x)₂ZnSn(S,Se)₄ Kesterite Solar Cells with Lithium Alloying. Advanced Energy Materials, 2018, 8, 1801191.	10.2	87
13	Compositional and Interfacial Engineering Yield High-Performance and Stable p-i-n Perovskite Solar Cells and Mini-Modules. ACS Applied Materials & Interfaces, 2021, 13, 13022-13033.	4.0	69
14	Suppressed Deep Traps and Bandgap Fluctuations in Cu₂CdSnS₄ Solar Cells with â‰ˆ8% Efficiency. Advanced Energy Materials, 2019, 9, 1902509.	10.2	65
15	Chemistry and Dynamics of Ge in Kesterite: Toward Band-Gap-Graded Absorbers. Chemistry of Materials, 2017, 29, 9399-9406.	3.2	59
16	Chalcogenide Perovskites: Tantalizing Prospects, Challenging Materials. Advanced Optical Materials, 2022, 10, .	3.6	58
17	High open circuit voltages in pin-type perovskite solar cells through strontium addition. Sustainable Energy and Fuels, 2019, 3, 550-563.	2.5	57
18	Deep Defect States in Wide-Band-Gap ABX₃ Halide Perovskites. ACS Energy Letters, 2019, 4, 1150-1157.	8.8	54

#	Article	IF	Citations
19	Microscopic origins of performance losses in highly efficient Cu(In,Ga)Se2 thin-film solar cells. Nature Communications, 2020, 11, 4189.	5.8	51
20	Revealing the beneficial effects of Ge doping on Cu₂ZnSnSe₄ thin film solar cells. Journal of Materials Chemistry A, 2018, 6, 11759-11772.	5.2	46
21	BaZrS₃ Chalcogenide Perovskite Thin Films by H₂S Sulfurization of Oxide Precursors. Journal of Physical Chemistry Letters, 2021, 12, 2148-2153.	2.1	46
22	From Bulk to Surface: Sodium Treatment Reduces Recombination at the Nickel Oxide/Perovskite Interface. Advanced Materials Interfaces, 2019, 6, 1900789.	1.9	45
23	Mixtures of Dopant-Free Spiro-OMeTAD and Water-Free PEDOT as a Passivating Hole Contact in Perovskite Solar Cells. ACS Applied Materials & Interfaces, 2019, 11, 9172-9181.	4.0	28
24	Earth abundant thin film solar cells from co-evaporated Cu2SnS3 absorber layers. Journal of Alloys and Compounds, 2016, 689, 182-186.	2.8	24
25	Effects of Postdeposition Annealing on the Luminescence of Mixed-Phase CsPb₂Br₅/CsPbBr₃ Thin Films. Journal of Physical Chemistry C, 2020, 124, 19514-19521.	1.5	21
26	Dependence of phase transitions on halide ratio in inorganic CsPb(Br_xI_{1â^'x})₃ perovskite thin films obtained from high-throughput experimentation. Journal of Materials Chemistry A, 2020, 8, 22626-22631.	5.2	20
27	Probing the Origin of the Open Circuit Voltage in Perovskite Quantum Dot Photovoltaics. ACS Nano, 2021, 15, 19334-19344.	7.3	18
28	Reaction Pathway for Efficient Cu₂ZnSnSe₄ Solar Cells from Alloyed Cuï£¿Sn Precursor via a Cuâ€Rich Selenization Stage. Solar Rrl, 2020, 4, 2000124.	3.1	13
29	Effect of Ag incorporation on structure and optoelectronic properties of (Ag1â^'xCux)2ZnSnSe4 solid solutions. Physical Review Materials, 2020, 4, .	0.9	12
30	Pre-annealing of metal stack precursors and its beneficial effect on kesterite absorber properties and device performance. Solar Energy Materials and Solar Cells, 2018, 185, 226-232.	3.0	11
31	Relating Carrier Dynamics and Photovoltaic Device Performance of Single-Crystalline <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" overflow="scroll"><mml:msub><mml:mi>Cu</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:mi>Zn</mml:mi><mml:mi>Sn</mml:mi> Physical Review Applied, 2019, 11, .	1.5	11
32	Surface preparation for 10% efficient CZTSe solar cells. Progress in Photovoltaics: Research and Applications, 2021, 29, 188-199.	4.4	10
33	Phase and film formation pathway for vacuum-deposited Cu2BaSn(S,Se)4 absorber layers. Physical Review Materials, 2019, 3, .	0.9	10
34	High-temperature decomposition of Cu₂BaSnS₄ with Sn loss reveals newly identified compound Cu₂Ba₃Sn₂S₈. Journal of Materials Chemistry A, 2020, 8, 11346-11353.	5.2	8
35	Influence of the Rear Interface on Composition and Photoluminescence Yield of CZTSSe Absorbers: A Case for an Al₂O₃ Intermediate Layer. ACS Applied Materials & Interfaces, 2021, 13, 19487-19496.	4.0	7
36	Effects of material properties of bandâ€gapâ€graded Cu(In,Ga)Se₂ thin films on the onset of the quantum efficiency spectra of corresponding solar cells. Progress in Photovoltaics: Research and Applications, 2022, 30, 1238-1246.	4.4	5

#	Article	IF	Citations
37	Microscopic insight into the impact of the KF postâ€deposition treatment on optoelectronic properties of (Ag,Cu)(In,Ga)Se 2 solar cells. Progress in Photovoltaics: Research and Applications, 0, , .	4.4	1
38	Thin Conformal Hole Transport Layers Enabling Highly Efficient Monolithic Perovskite/CIGSe Tandem Solar Cells. , 0, , .		0
39	Efficiency Potential and Loss Analysis of Inorganic CsPbI2Br Perovskite Solar Cells. , 0, , .		0