Victor Izquierdo-Roca

List of Publications by Year
in descending order

190 papers	8,192 citations	38742 50 h-index	54911 84 g-index
192 all docs	192 docs citations	192 times ranked	4744 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	In-depth resolved Raman scattering analysis for the identification of secondary phases: Characterization of Cu2ZnSnS4 layers for solar cell applications. Applied Physics Letters, 2011, 98, .	3.3	287
3	Multiwavelength excitation Raman scattering study of polycrystalline kesterite Cu2ZnSnS4 thin films. Applied Physics Letters, 2014, 104, .	3.3	249
4	Development of a Selective Chemical Etch To Improve the Conversion Efficiency of Zn-Rich Cu₂ZnSnS₄ Solar Cells. Journal of the American Chemical Society, 2012, 134, 8018-8021.	13.7	242
5	Raman analysis of monoclinic Cu2SnS3 thin films. Applied Physics Letters, 2012, 100, .	3.3	232
6	Vibrational properties of stannite and kesterite type compounds: Raman scattering analysis of Cu2(Fe,Zn)SnS4. Journal of Alloys and Compounds, 2012, 539, 190-194.	5.5	201
7	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
8	Detection of a ZnSe secondary phase in coevaporated Cu2ZnSnSe4 thin films. Applied Physics Letters, 2011, 98, .	3.3	195
9	Large Efficiency Improvement in Cu₂ZnSnSe₄ Solar Cells by Introducing a Superficial Ge Nanolayer. Advanced Energy Materials, 2015, 5, 1501070.	19.5	188
10	How small amounts of Ge modify the formation pathways and crystallization of kesterites. Energy and Environmental Science, 2018, 11, 582-593.	30.8	169
11	Composition Control and Thermoelectric Properties of Quaternary Chalcogenide Nanocrystals: The Case of Stannite Cu₂CdSnSe₄. Chemistry of Materials, 2012, 24, 562-570.	6.7	153
12	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
13	Raman scattering and disorder effect in Cu₂ZnSnS₄. Physica Status Solidi - Rapid Research Letters, 2013, 7, 258-261.	2.4	136
14	Influence of compositionally induced defects on the vibrational properties of device grade Cu2ZnSnSe4 absorbers for kesterite based solar cells. Applied Physics Letters, 2015, 106, .	3.3	135
15	Impact of Sn(S,Se) Secondary Phases in Cu₂ZnSn(S,Se)₄ Solar Cells: a Chemical Route for Their Selective Removal and Absorber Surface Passivation. ACS Applied Materials & Interfaces, 2014, 6, 12744-12751.	8.0	132
16	Rapid annealing of reactively sputtered precursors for Cu₂ZnSnS₄ solar cells. Progress in Photovoltaics: Research and Applications, 2014, 22, 10-17.	8.1	131
17	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
18	Secondary phases dependence on composition ratio in sprayed Cu2ZnSnS4 thin films and its impact on the high power conversion efficiency. Solar Energy Materials and Solar Cells, 2013, 117, 246-250.	6.2	116

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19	Raman scattering crystalline assessment of polycrystalline Cu2ZnSnS4 thin films for sustainable photovoltaic technologies: Phonon confinement model. Acta Materialia, 2014, 70, 272-280.	7.9	115
20	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
21	ZnS grain size effects on near-resonant Raman scattering: optical non-destructive grain size estimation. CrystEngComm, 2014, 16, 4120.	2.6	105
22	Advanced Raman Spectroscopy of Methylammonium Lead Iodide: Development of a Non-destructive Characterisation Methodology. Scientific Reports, 2016, 6, 35973.	3.3	103
23	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
24	Discrimination and detection limits of secondary phases in Cu2ZnSnS4 using X-ray diffraction and Raman spectroscopy. Thin Solid Films, 2014, 569, 113-123.	1.8	98
25	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
26	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
27	Point defects, compositional fluctuations, and secondary phases in non-stoichiometric kesterites. JPhys Energy, 2020, 2, 012002.	5.3	92
28	Polarized Raman scattering study of kesterite type Cu2ZnSnS4 single crystals. Scientific Reports, 2016, 6, 19414.	3.3	88
29	Alkali doping strategies for flexible and light-weight Cu₂ZnSnSe₄ solar cells. Journal of Materials Chemistry A, 2016, 4, 1895-1907.	10.3	88
30	Structural Polymorphism in â€œKesteriteâ€•Cu₂ZnSnS₄: Raman Spectroscopy and First-Principles Calculations Analysis. Inorganic Chemistry, 2017, 56, 3467-3474.	4.0	84
31	Secondary phase and Cu substitutional defect dynamics in kesterite solar cells: Impact on optoelectronic properties. Solar Energy Materials and Solar Cells, 2016, 149, 304-309.	6.2	82
32	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
33	Comprehensive Comparison of Various Techniques for the Analysis of Elemental Distributions in Thin Films. Microscopy and Microanalysis, 2011, 17, 728-751.	0.4	72
34	Impact of Na Dynamics at the Cu₂ZnSn(S,Se)₄/CdS Interface During Post Low Temperature Treatment of Absorbers. ACS Applied Materials & Interfaces, 2016, 8, 5017-5024.	8.0	72
35	Raman scattering analysis of the surface chemistry of kesterites: Impact of post-deposition annealing and Cu/Zn reordering on solar cell performance. Solar Energy Materials and Solar Cells, 2016, 157, 462-467.	6.2	71
36	Polarized Raman scattering analysis of Cu2ZnSnSe4 and Cu2ZnGeSe4 single crystals. Journal of Applied Physics, 2013, 114, 193514.	2.5	70

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37	Raman scattering quantitative analysis of the anion chemical composition in kesterite Cu2ZnSn(SxSe1â^’x)4 solid solutions. Journal of Alloys and Compounds, 2015, 628, 464-470.	5.5	69
38	<i>V</i>_{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
39	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
40	Raman microprobe characterization of electrodeposited S-rich CuIn(S,Se)2 for photovoltaic applications: Microstructural analysis. Journal of Applied Physics, 2007, 101, 103517.	2.5	66
41	Compositional optimization of photovoltaic grade Cu2ZnSnS4 films grown by pneumatic spray pyrolysis. Thin Solid Films, 2013, 535, 67-72.	1.8	66
42	Suppressed Deep Traps and Bandgap Fluctuations in Cu₂CdSnS₄ Solar Cells with â‰ˆ8% Efficiency. Advanced Energy Materials, 2019, 9, 1902509.	19.5	65
43	Multiwavelength excitation Raman scattering of Cu2ZnSn(SxSe1â^’x)4 (0â€‰â‰â€‰<i>x</i>â€‰â‰â€‰1) polycrystalline thin films: Vibrational properties of sulfoselenide solid solutions. Applied Physics Letters, 2014, 105, .	3.3	64
44	Defect characterisation in Cu₂ZnSnSe₄kesterites<i>via</i>resonance Raman spectroscopy and the impact on optoelectronic solar cell properties. Journal of Materials Chemistry A, 2019, 7, 13293-13304.	10.3	63
45	Cu deficiency in multi-stage co-evaporated Cu(In,Ga)Se2 for solar cells applications: Microstructure and Ga in-depth alloying. Acta Materialia, 2010, 58, 3468-3476.	7.9	61
46	Formation and impact of secondary phases in Cu-poor Zn-rich Cu2ZnSn(S1â^’Se)4 (0â‰yâ‰1) based solar cells. Solar Energy Materials and Solar Cells, 2015, 140, 289-298.	6.2	60
47	Characterization of Cu₂SnS₃polymorphism and its impact on optoelectronic properties. Journal of Materials Chemistry A, 2017, 5, 23863-23871.	10.3	56
48	Singleâ€Step Sulfoâ€Selenization Method to Synthesize Cu₂ZnSn(S_{<i>y</i>}Se_{1â^’<i>y</i>})₄ Absorbers from Metallic Stack Precursors. ChemPhysChem, 2013, 14, 1836-1843.	2.1	54
49	Precursor Stack Ordering Effects in Cu₂ZnSnSe₄ Thin Films Prepared by Rapid Thermal Processing. Journal of Physical Chemistry C, 2014, 118, 17291-17298.	3.1	53
50	Process monitoring of chalcopyrite photovoltaic technologies by Raman spectroscopy: an application to low cost electrodeposition based processes. New Journal of Chemistry, 2011, 35, 453-460.	2.8	52
51	Raman scattering and structural analysis of electrodeposited CuInSe₂ and Sâ€rich quaternary CuIn(S,Se)₂ semiconductors for solar cells. Physica Status Solidi (A) Applications and Materials Science, 2009, 206, 1001-1004.	1.8	51
52	Optical methodology for process monitoring of chalcopyrite photovoltaic technologies: Application to low cost Cu(In,Ga)(S,Se)2 electrodeposition based processes. Solar Energy Materials and Solar Cells, 2016, 158, 168-183.	6.2	51
53	Quality and stability of compound indium sulphide as source material for buffer layers in Cu(In,Ga)Se2 solar cells. Solar Energy Materials and Solar Cells, 2009, 93, 148-152.	6.2	50
54	Raman scattering analysis of electrodeposited Cu(In,Ga)Se2 solar cells: Impact of ordered vacancy compounds on cell efficiency. Applied Physics Letters, 2014, 105, .	3.3	49

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55	Insights into interface and bulk defects in a high efficiency kesterite-based device. Energy and Environmental Science, 2021, 14, 507-523.	30.8	48
56	Advanced Raman spectroscopy of Cs2AgBiBr6 double perovskites and identification of Cs3Bi2Br9 secondary phases. Scripta Materialia, 2020, 184, 24-29.	5.2	46
57	The three A symmetry Raman modes of kesterite in Cu_2ZnSnSe_4. Optics Express, 2013, 21, A695.	3.4	45
58	Bifacial Kesterite Solar Cells on FTO Substrates. ACS Sustainable Chemistry and Engineering, 2017, 5, 11516-11524.	6.7	45
59	Wide band-gap tuning Cu2ZnSn1âˆ’xGexS4 single crystals: Optical and vibrational properties. Solar Energy Materials and Solar Cells, 2016, 158, 147-153.	6.2	44
60	Investigation of compositional inhomogeneities in complex polycrystalline Cu(In,Ga)Se2 layers for solar cells. Applied Physics Letters, 2009, 95, .	3.3	43
61	Role of S and Se atoms on the microstructural properties of kesterite Cu₂ZnSn(S_xSe_{1âˆ’x})₄ thin film solar cells. Physical Chemistry Chemical Physics, 2016, 18, 8692-8700.	2.8	43
62	Resonant Raman scattering of ZnS_xSe_{1âˆ’x} solid solutions: the role of S and Se electronic states. Physical Chemistry Chemical Physics, 2016, 18, 7632-7640.	2.8	43
63	Structural and vibrational properties of Î±- and Ï€-SnS polymorphs for photovoltaic applications. Acta Materialia, 2020, 183, 1-10.	7.9	43
64	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
65	Improving Carrier-Transport Properties of CZTS by Mg Incorporation with Spray Pyrolysis. ACS Applied Materials & Interfaces, 2019, 11, 25824-25832.	8.0	42
66	Evaluation of AA-CVD deposited phase pure polymorphs of SnS for thin films solar cells. RSC Advances, 2019, 9, 14899-14909.	3.6	42
67	In-depth resolved Raman scattering analysis of secondary phases in Cu-poor CuInSe2 based thin films. Applied Physics Letters, 2009, 95, 121907.	3.3	40
68	Towards high performance Cd-free CZTSe solar cells with a ZnS(O,OH) buffer layer: the influence of thiourea concentration on chemical bath deposition. Journal Physics D: Applied Physics, 2016, 49, 125602.	2.8	39
69	Optical phonons in the kesterite Cu₂ZnGeS₄semiconductor: polarized Raman spectroscopy and first-principle calculations. RSC Advances, 2016, 6, 13278-13285.	3.6	35
70	Analysis of S-rich CuIn(S,Se)2 layers for photovoltaic applications: Influence of the sulfurization temperature on the crystalline properties of electrodeposited and sulfurized CuInSe2 precursors. Journal of Applied Physics, 2008, 103, 123109.	2.5	34
71	Compositional paradigms in multinary compound systems for photovoltaic applications: a case study of kesterites. Journal of Materials Chemistry A, 2015, 3, 9451-9455.	10.3	34
72	Towards the growth of Cu 2 ZnSn 1âˆ’x Ge x S 4 thin films by a single-stage process: Effect of substrate temperature and composition. Solar Energy Materials and Solar Cells, 2015, 139, 1-9.	6.2	33

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73	Toward a high Cu2ZnSnS4 solar cell efficiency processed by spray pyrolysis method. Journal of Renewable and Sustainable Energy, 2013, 5, .	2.0	32
74	Cu2ZnSnS4 thin film solar cells grown by fast thermal evaporation and thermal treatment. Solar Energy, 2017, 141, 236-241.	6.1	32
75	Raman scattering characterisation of electrochemical growth of CuInSe₂ nanocrystalline thin films for photovoltaic applications: Surface and inâ€depth analysis. Surface and Interface Analysis, 2008, 40, 798-801.	1.8	31
76	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
77	Turning Earth Abundant Kesterite-Based Solar Cells Into Efficient Protected Water-Splitting Photocathodes. ACS Applied Materials & Interfaces, 2018, 10, 13425-13433.	8.0	31
78	Impact of electronic defects on the Raman spectra from electrodeposited Cu(In,Ga)Se2 solar cells: Application for non-destructive defect assessment. Applied Physics Letters, 2013, 102, .	3.3	30
79	Key role of Cuâ€"Se binary phases in electrodeposited CuInSe2 precursors on final distribution of Cuâ€"S phases in CuIn(S,Se)2 absorbers. Thin Solid Films, 2009, 517, 2268-2271.	1.8	29
80	Raman scattering analysis of Cu-poor Cu(In,Ga)Se2 cells fabricated on polyimide substrates: Effect of Na content on microstructure and phase structure. Thin Solid Films, 2011, 519, 7300-7303.	1.8	29
81	Polarized Raman scattering analysis of Cu₂ZnSiS₄and Cu₂ZnSiSe₄single crystals. Journal of Applied Physics, 2013, 114, 173507.	2.5	29
82	Rear Band gap Grading Strategies on Snâ€"Ge-Alloyed Kesterite Solar Cells. ACS Applied Energy Materials, 2020, 3, 10362-10375.	5.1	29
83	Transition-Metal Oxides for Kesterite Solar Cells Developed on Transparent Substrates. ACS Applied Materials & Interfaces, 2020, 12, 33656-33669.	8.0	29
84	Multiwavelength excitation Raman scattering of Cu2ZnSn1-xGex(S,Se)4 single crystals for earth abundant photovoltaic applications. Journal of Alloys and Compounds, 2017, 692, 249-256.	5.5	28
85	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
86	Assessment of absorber composition and nanocrystalline phases in CuInS2 based photovoltaic technologies by ex-situ/in-situ resonant Raman scattering measurements. Solar Energy Materials and Solar Cells, 2011, 95, S83-S88.	6.2	27
87	Advanced characterization of electrodeposition-based high efficiency solar cells: Non-destructive Raman scattering quantitative assessment of the anion chemical composition in Cu(In,Ga)(S,Se)2 absorbers. Solar Energy Materials and Solar Cells, 2015, 143, 212-217.	6.2	26
88	Optical properties of quaternary kesterite-type Cu₂Zn(Sn_{1âˆ’x}Ge_x)S₄crystalline alloys: Raman scattering, photoluminescence and first-principle calculations. RSC Advances, 2016, 6, 67756-67763.	3.6	25
89	Optical phonons in the wurtzstanniteCu2ZnGeS4semiconductor: Polarized Raman spectroscopy and first-principle calculations. Physical Review B, 2014, 89, .	3.2	24
90	Effect of Magnesium Incorporation on Solution-Processed Kesterite Solar Cells. Frontiers in Chemistry, 2018, 6, 5.	3.6	24

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91	Cu₂ZnSnS₄ thin films grown by spray pyrolysis: characterization by Raman spectroscopy and Xâ€ray diffraction. Physica Status Solidi C: Current Topics in Solid State Physics, 2013, 10, 1082-1085.	0.8	23
92	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
93	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
94	CuIn1âˆ’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
95	Effect of Cd on cation redistribution and order-disorder transition in Cu₂(Zn,Cd)SnS₄. Journal of Materials Chemistry A, 2019, 7, 26927-26933.	10.3	22
96	Electrodeposition based synthesis of S-rich CuIn(S,Se)2 layers for photovoltaic applications: Raman scattering analysis of electrodeposited CuInSe2 precursors. Thin Solid Films, 2009, 517, 2163-2166.	1.8	21
97	Electrochemical synthesis of CuIn(S,Se)2 alloys with graded composition for high efficiency solar cells. Applied Physics Letters, 2009, 94, 061915.	3.3	20
98	Cu2ZnSnS4 thin films grown by flash evaporation and subsequent annealing in Ar atmosphere. Thin Solid Films, 2013, 535, 62-66.	1.8	20
99	Raman spectra of wurtzstannite quaternary compounds. Physica Status Solidi C: Current Topics in Solid State Physics, 2013, 10, 1075-1078.	0.8	20
100	Synthesis and Crystal Structure Evolution of Co-Evaporated Cs₂AgBiBr₆ Thin Films upon Thermal Treatment. Journal of Physical Chemistry C, 2020, 124, 9249-9255.	3.1	20
101	Structural characterisation of Cu_{2.04}Zn_{0.91}Sn_{1.05}S_{2.08}Se_{1.92}. Physica Status Solidi C: Current Topics in Solid State Physics, 2015, 12, 588-591.	0.8	19
102	Nondestructive Raman Scattering Assessment of Solution-Processed ZnO-Doped Layers for Photovoltaic Applications. Journal of Physical Chemistry C, 2017, 121, 3212-3218.	3.1	17
103	Sulfurization of co-evaporated Cu2ZnSnSe4 thin film solar cells: The role of Na. Solar Energy Materials and Solar Cells, 2018, 186, 115-123.	6.2	17
104	Investigation on limiting factors affecting Cu2ZnGeSe4 efficiency: Effect of annealing conditions and surface treatment. Solar Energy Materials and Solar Cells, 2020, 216, 110701.	6.2	17
105	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
106	Combined Raman scattering/photoluminescence analysis of Cu(In,Ga)Se2 electrodeposited layers. Solar Energy, 2014, 103, 89-95.	6.1	16
107	Insights into the Formation Pathways of Cu₂ZnSnSe₄ Using Rapid Thermal Processes. ACS Applied Energy Materials, 2018, 1, 1981-1989.	5.1	16
108	Controlling the Anionic Ratio and Gradient in Kesterite Technology. ACS Applied Materials & Interfaces, 2022, 14, 1177-1186.	8.0	16

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109	Influence of NaF incorporation during Cu(In,Ga)Se<inf>2</inf> growth on microstructure and photovoltaic performance. , 2010, , .		15
110	Simplified formation process for Cu2ZnSnS4-based solar cells. Thin Solid Films, 2014, 573, 148-158.	1.8	15
111	An overview of technological aspects of Cu(In,Ga)Se₂solar cell architectures incorporating ZnO nanorod arrays. Physica Status Solidi (A) Applications and Materials Science, 2015, 212, 76-87.	1.8	15
112	Impact of Cuâ€"Au type domains in high current density CuInS 2 solar cells. Solar Energy Materials and Solar Cells, 2015, 139, 101-107.	6.2	15
113	Towards In-reduced photovoltaic absorbers: Evaluation of zinc-blende CuInSe2-ZnSe solid solution. Solar Energy Materials and Solar Cells, 2017, 160, 26-33.	6.2	15
114	Cu-Sn-S system: Vibrational properties and coexistence of the Cu2SnS3, Cu3SnS4 and Cu4SnS4 compounds. Scripta Materialia, 2020, 186, 180-184.	5.2	15
115	Perchlorate-Induced Doping of Electrodeposited ZnO Films for Optoelectronic Applications. Journal of Physical Chemistry C, 2016, 120, 18953-18962.	3.1	13
116	Raman scattering quantitative assessment of the anion composition ratio in Zn(O,S) layers for Cd-free chalcogenide-based solar cells. RSC Advances, 2016, 6, 24536-24542.	3.6	13
117	Cu2ZnSnSe4 based solar cells combining co-electrodeposition and rapid thermal processing. Solar Energy, 2018, 173, 955-963.	6.1	13
118	Uncovering details behind the formation mechanisms of Cu2ZnGeSe4 photovoltaic absorbers. Journal of Materials Chemistry C, 2020, 8, 4003-4011.	5.5	13
119	Combinatorial and machine learning approaches for the analysis of Cu₂ZnGeSe₄: influence of the off-stoichiometry on defect formation and solar cell performance. Journal of Materials Chemistry A, 2021, 9, 10466-10476.	10.3	13
120	ZnO/Ag Nanocomposites with Enhanced Antimicrobial Activity. Applied Sciences (Switzerland), 2022, 12, 5023.	2.5	13
121	Raman scattering microcrystalline assessment and device quality control of electrodeposited CuIn(S,Se)2 based solar cells. Thin Solid Films, 2008, 516, 7021-7025.	1.8	12
122	Analysis of sulphurisation processes of electrodeposited S-rich CuIn(S,Se)2 layers for photovoltaic applications. Thin Solid Films, 2009, 517, 2264-2267.	1.8	12
123	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
124	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
125	Study and optimization of alternative MBEâ€deposited metallic precursors for highly efficient kesterite CZTSe:Ge solar cells. Progress in Photovoltaics: Research and Applications, 2019, 27, 779-788.	8.1	12
126	UVâ€Selective Optically Transparent Zn(O,S)â€Based Solar Cells. Solar Rrl, 2020, 4, 2000470.	5.8	12

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127	Structural study and Raman scattering analysis of Cu_2ZnSiTe_4 bulk crystals. Optics Express, 2014, 22, A1936.	3.4	11
128	Selenization of Cu2ZnSnS4 thin films obtained by pneumatic spray pyrolysis. Journal of Analytical and Applied Pyrolysis, 2016, 120, 45-51.	5.5	11
129	Preparation and characterization of Cu₂ZnSnSe₄and Cu₂ZnSn(S,Se)₄powders by ball milling process for solar cells application. Materials Research Express, 2017, 4, 125501.	1.6	11
130	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.	6.2	11
131	Rear interface engineering of kesterite Cu₂ZnSnSe₄ solar cells by adding CuGaSe₂ thin layers. Progress in Photovoltaics: Research and Applications, 2021, 29, 334-343.	8.1	11
132	Influence of co-electrodeposition parameters in the synthesis of kesterite thin films for photovoltaic. Journal of Alloys and Compounds, 2020, 839, 155679.	5.5	10
133	Comparative study of the nonlinear optical properties of Si nanocrystals fabricated by eâ€beam evaporation, PECVD or LPCVD. Physica Status Solidi C: Current Topics in Solid State Physics, 2011, 8, 969-973.	0.8	9
134	Synthesis of CuIn(S,Se)2 quaternary alloys by screen printing and selenization-sulfurization sequential steps: Development of composition graded absorbers for low cost photovoltaic devices. Materials Chemistry and Physics, 2015, 160, 237-243.	4.0	9
135	Resonant Raman scattering based approaches for the quantitative assessment of nanometric ZnMgO layers in high efficiency chalcogenide solar cells. Scientific Reports, 2017, 7, 1144.	3.3	9
136	High V<inf>OC</inf> Cu<inf>2</inf>ZnSnSe<inf>4</inf>/CdS:Cu based solar cell: Evidences of a metal-insulator-semiconductor (MIS) type hetero-junction. , 2014, , .		8
137	Synthesis of Cu2ZnSnS4nanoparticles and analysis of secondary phases in powder pellets. Physica Status Solidi (A) Applications and Materials Science, 2015, 212, 329-335.	1.8	8
138	Influence of Amorphous Silicon Carbide Intermediate Layer in the Back-Contact Structure of Cu₂ZnSnSe₄Solar Cells. IEEE Journal of Photovoltaics, 2016, 6, 1327-1332.	2.5	8
139	An in-depth investigation on the grain growth and the formation of secondary phases of ultrasonic-sprayed Cu2ZnSnS4 based thin films assisted by Na crystallization catalyst. Solar Energy, 2018, 176, 277-286.	6.1	8
140	Effective module level encapsulation of CIGS solar cells with Al2O3 thin film grown by atomic layer deposition. Solar Energy Materials and Solar Cells, 2021, 222, 110914.	6.2	8
141	Over 10% Efficient Wide Bandgap CIGSe Solar Cells on Transparent Substrate with Na Predeposition Treatment. Solar Rrl, 2020, 4, 2000284.	5.8	8
142	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
143	Raman scattering investigation of MnxFe1â^’xIn2S4 solid solutions. Materials Chemistry and Physics, 2012, 136, 883-888.	4.0	7
144	Cu₂ZnSnS₄absorber layers deposited by spray pyrolysis for advanced photovoltaic technology. Physica Status Solidi (A) Applications and Materials Science, 2015, 212, 126-134.	1.8	7

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145	Double band gap gradients in sequentially processed photovoltaic absorbers from the Cu(In,Ga)Se₂â€ZnSe pseudobinary system. Progress in Photovoltaics: Research and Applications, 2018, 26, 135-144.	8.1	7
146	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
147	Contact resistance stability and cation mixing in a Vulcan-based LiNi_{1/3}Co_{1/3}Mn_{1/3}O₂ slurry for semi-solid flow batteries. Dalton Transactions, 2021, 50, 6710-6717.	3.3	7
148	Ultrathin Wideâ€Bandgap aâ€Si:Hâ€Based Solar Cells for Transparent Photovoltaic Applications. Solar Rrl, 2022, 6, 2100909.	5.8	7
149	Chemical bath deposition route for the synthesis of ultra-thin CuIn(S,Se) 2 based solar cells. Thin Solid Films, 2015, 582, 74-78.	1.8	6
150	Enhanced Heteroâ€Junction Quality and Performance of Kesterite Solar Cells by Aluminum Hydroxide Nanolayers and Efficiency Limitation Revealed by Atomicâ€resolution Scanning Transmission Electron Microscopy. Solar Rrl, 2018, 3, 1800279.	5.8	6
151	Defect depth-profiling in kesterite absorber by means of chemical etching and surface analysis. Applied Surface Science, 2021, 540, 148342.	6.1	6
152	Insights into the Effects of RbFâ€Postâ€Deposition Treatments on the Absorber Surface of High Efficiency Cu(In,Ga)Se₂ Solar Cells and Development of Analytical and Machine Learning Process Monitoring Methodologies Based on Combinatorial Analysis. Advanced Energy Materials, 2022, 12, .	19.5	6
153	Real-Time Raman Scattering Analysis of the Electrochemical Growth of CuInSe2 Precursors for CuIn(S,Se)2 Solar Cells. Journal of the Electrochemical Society, 2011, 158, H521.	2.9	5
154	Phosphonic acids aid composition adjustment in the synthesis of Cu2+x Zn1â^'x SnSe4â^'y nanoparticles. Journal of Nanoparticle Research, 2016, 18, 1.	1.9	5
155	Subcellular Optical pH Nanoscale Sensor. ChemistrySelect, 2017, 2, 8115-8121.	1.5	5
156	Vibrational Properties of RbInSe₂: Raman Scattering Spectroscopy and First-Principle Calculations. Journal of Physical Chemistry C, 2020, 124, 1285-1291.	3.1	5
157	Evaluation of defect formation in chalcopyrite compounds under Cu-poor conditions by advanced structural and vibrational analyses. Acta Materialia, 2022, 223, 117507.	7.9	5
158	Comprehensive physicochemical and photovoltaic analysis of different Zn substitutes (Mn, Mg, Fe, Ni,) Tj ETQq0 0 0 rgBT /Overlock 10 T	10.3	5
159	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
160	Large performance improvement in Cu2ZnSnSe4 based solar cells by surface engineering with a nanometric Ge layer. , 2015, , .		4
161	Cationic compositional optimization of CuIn(S 1-y Se y) 2 ultra-thin layers obtained by chemical bath deposition. Applied Surface Science, 2017, 404, 57-62.	6.1	4
162	Two ideal compositions for kesterite-based solar cell devices. , 2014, , .		3

#	Article	IF	Citations
163	Efficient bifacial Cu2ZnSnSe4 solar cells. , 2015, , .		3
164	Raman scattering assessment of point defects in kesterite semiconductors: UV resonant Raman characterization for advanced photovoltaics. , 2017, , .		3
165	Characterisation of Secondary Phases in Cu Poor CuInSe2: Surface and in-depth resolved Raman scattering analysis of polycrystalline layers. Materials Research Society Symposia Proceedings, 2009, 1165, 1.	0.1	2
166	Preparation of 4.8% efficiency Cu<inf>2</inf>ZnSnSe<inf>4</inf> based solar cell by a two step process. , 2012, , .		2
167	Doping Effects on Kesterites Other than Alkalis. , 2018, , .		2
168	Insights on the Thermal Stability of the Sb₂Se₃ Quasiâ€1D Photovoltaic Technology. Solar Rrl, 2021, 5, 2100517.	5.8	2
169	Thickness evaluation of AlO x barrier layers for encapsulation of flexible PV modules in industrial environments by normal reflectance and machine learning. Progress in Photovoltaics: Research and Applications, 0, , .	8.1	2
170	spectrapepper: A Python toolbox for advanced analysis of spectroscopic data for materials and devices.. Journal of Open Source Software, 2021, 6, 3781.	4.6	2
171	Kinetics and phase analysis of kesterite compounds: Influence of chalcogen availability in the reaction pathway. Materialia, 2022, 24, 101509.	2.7	2
172	Electrodeposited CuIn(S, Se)2 films for low cost high efficiency solar cell applications: microstructural analysis. , 2007, , .		1
173	Developing Raman scattering as quality control technique: Correlation with presence of electronic defects in CIGS-based devices. , 2012, , .		1
174	Rapid thermal processing of Cu<inf>2</inf>ZnSnSe<inf>4</inf> thin films. , 2014, , .		1
175	Advanced hybrid buffer layers for Cu<inf>2</inf>ZnSnSe<inf>4</inf> solar cells. , 2016, , .		1
176	Enhancing grain growth and boosting Voc in CZTSe absorber layers â€” Is Ge doping the answer?. , 2016, , .		1
177	Bi-directional crystallization of Cu<inf>2</inf>ZnSnSe<inf>4</inf> assisted with back/front Ge nanolayers. , 2016, , .		1
178	An Insight into Pure Ge Based Kesterite Synthesis. , 2019, , .		1
179	Bromine etching of kesterite thin films: perspectives in depth defect profiling and device performance improvement. , 2021, , .		1
180	Raman scattering based strategies for quality control and process monitoring in electrodeposited CuIn(S,Se)2 solar cell technologies. Materials Research Society Symposia Proceedings, 2009, 1165, 1.	0.1	0

#	Article	IF	Citations
181	UV-Raman scattering assessment of ZnO:Al layers from Cu(In, Ga)Se<inf>2</inf> based solar cells: Application for fast on-line process monitoring. , 2013, , .		0
182	Vibrational and structural properties of Cu<inf>2</inf>ZnSn(S<inf>x</inf>Se<inf>1−x</inf>)<inf>4</inf> (0 ≤ x ≤ 1) solid solutions. , 2014, , .		0
183	Post-deposition annealing of Cu<inf>2</inf>ZnSnSe<inf>4</inf>/CdS based solar cells: Analysis of the absorber's surface defects. , 2016, , .		0
184	Development of Cu<inf>2</inf>SnS<inf>3</inf> based solar cells by a sequential process. , 2016, , .		0
185	The Cu(In, Ga)Se<inf>2</inf>-ZnSe system: Optimizing solid solutions for high V<inf>OC</inf> photovoltaic devices. , 2016, , .		0
186	CdS bi-layers for optimized CdS/Cu<inf>2</inf>ZnSnSe<inf>4</inf> solar cells. , 2016, , .		0
187	Transition Metal Oxides Nano-Layers as Efficient Back Electron Reflectors For Cu2ZnSnSe4 Solar Cells. , 2017, , .		0
188	Impact of Thin CuGa Layers Added at the Rear Interface of Cu2ZnSnSe4 Solar Cells. , 2019, , .		0
189	Numerical modeling and experimental realization of wide bandgap ZnTe-based solar cells for semi-transparent PV application. , 2019, , .		0
190	UVâ€Selective Optically Transparent Zn(O,S)â€Based Solar Cells. Solar Rrl, 2020, 4, 2070112.	5.8	0