Edgardo Saucedo

List of Publications by Year
in descending order

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240 papers	8,112 citations	43973 48 h-index	62479 80 g-index
243 all docs	243 docs citations	243 times ranked	4742 citing authors

#	Article	IF	Citations
1	Progress and Perspectives of Thin Film Kesterite Photovoltaic Technology: A Critical Review. Advanced Materials, 2019, 31, e1806692.	11.1	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, .	1.5	287
3	Multiwavelength excitation Raman scattering study of polycrystalline kesterite Cu2ZnSnS4 thin films. Applied Physics Letters, 2014, 104, .	1.5	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.	6.6	242
5	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.	2.8	201
6	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.	3.0	200
7	Detection of a ZnSe secondary phase in coevaporated Cu2ZnSnSe4 thin films. Applied Physics Letters, 2011, 98, .	1.5	195
8	Large Efficiency Improvement in Cu₂ZnSnSe₄ Solar Cells by Introducing a Superficial Ge Nanolayer. Advanced Energy Materials, 2015, 5, 1501070.	10.2	188
9	Enhanced photoelectrochemical water splitting of hematite multilayer nanowire photoanodes by tuning the surface state via bottom-up interfacial engineering. Energy and Environmental Science, 2017, 10, 2124-2136.	15.6	185
10	How small amounts of Ge modify the formation pathways and crystallization of kesterites. Energy and Environmental Science, 2018, 11, 582-593.	15.6	169
11	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.	5.2	151
12	Raman scattering and disorder effect in Cu₂ZnSnS₄. Physica Status Solidi - Rapid Research Letters, 2013, 7, 258-261.	1.2	136
13	Influence of compositionally induced defects on the vibrational properties of device grade Cu2ZnSnSe4 absorbers for kesterite based solar cells. Applied Physics Letters, 2015, 106, .	1.5	135
14	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.	4.0	132
15	Extrinsic Doping of Electrodeposited Zinc Oxide Films by Chlorine for Transparent Conductive Oxide Applications. Chemistry of Materials, 2009, 21, 534-540.	3.2	122
16	ZnSe Etching of Znâ€Rich Cu₂ZnSnSe₄: An Oxidation Route for Improved Solarâ€Cell Efficiency. Chemistry - A European Journal, 2013, 19, 14814-14822.	1.7	118
17	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.	3.0	116
18	Raman scattering crystalline assessment of polycrystalline Cu2ZnSnS4 thin films for sustainable photovoltaic technologies: Phonon confinement model. Acta Materialia, 2014, 70, 272-280.	3.8	115

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19	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.	4.4	110
20	Antimony-Based Ligand Exchange To Promote Crystallization in Spray-Deposited Cu₂ZnSnSe₄ Solar Cells. Journal of the American Chemical Society, 2013, 135, 15982-15985.	6.6	107
21	ZnS grain size effects on near-resonant Raman scattering: optical non-destructive grain size estimation. CrystEngComm, 2014, 16, 4120.	1.3	105
22	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.	3.2	99
23	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.	4.4	97
24	Alkali doping strategies for flexible and light-weight Cu₂ZnSnSe₄ solar cells. Journal of Materials Chemistry A, 2016, 4, 1895-1907.	5.2	88
25	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.	3.0	82
26	Cu₂ZnSnSe₄solar cells with 10.6% efficiency through innovative absorber engineering with Ge superficial nanolayer. Progress in Photovoltaics: Research and Applications, 2016, 24, 1359-1367.	4.4	77
27	The importance of back contact modification in Cu2ZnSnSe4 solar cells: The role of a thin MoO2 layer. Nano Energy, 2016, 26, 708-721.	8.2	77
28	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.	4.0	72
29	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.	3.0	71
30	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.	2.8	69
31	<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.	1.5	69
32	Multiwavelength excitation Raman scattering study of Sb ₂ Se ₃ compound: fundamental vibrational properties and secondary phases detection. 2D Materials, 2019, 6, 045054.	2.0	69
33	Compositional optimization of photovoltaic grade Cu2ZnSnS4 films grown by pneumatic spray pyrolysis. Thin Solid Films, 2013, 535, 67-72.	0.8	66
34	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, .	1.5	64
35	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.	5.2	63
36	Electrical properties of sprayed Cu2ZnSnS4 thin films and its relation with secondary phase formation and solar cell performance. Solar Energy Materials and Solar Cells, 2015, 132, 557-562.	3.0	61

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37	Formation and impact of secondary phases in Cu-poor Zn-rich Cu2ZnSn(S1âˆ’Se)4 (0â‰yâ‰1) based solar cells. Solar Energy Materials and Solar Cells, 2015, 140, 289-298.	3.0	60
38	Chemistry and Dynamics of Ge in Kesterite: Toward Band-Gap-Graded Absorbers. Chemistry of Materials, 2017, 29, 9399-9406.	3.2	59
39	Characterization of Cu₂SnS₃polymorphism and its impact on optoelectronic properties. Journal of Materials Chemistry A, 2017, 5, 23863-23871.	5.2	56
40	Singleâ€Step Sulfoâ€Selenization Method to Synthesize Cu₂ZnSn(S_{<i>y</i>}Se_{1âˆ’<i>y</i>})₄ Absorbers from Metallic Stack Precursors. ChemPhysChem, 2013, 14, 1836-1843.	1.0	54
41	Towards understanding poor performances in spray-deposited Cu2ZnSnS4 thin film solar cells. Solar Energy Materials and Solar Cells, 2017, 159, 151-158.	3.0	54
42	Emerging inorganic solar cell efficiency tables (Version 1). JPhys Energy, 2019, 1, 032001.	2.3	54
43	Precursor Stack Ordering Effects in Cu₂ZnSnSe₄ Thin Films Prepared by Rapid Thermal Processing. Journal of Physical Chemistry C, 2014, 118, 17291-17298.	1.5	53
44	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.	1.4	52
45	8.2% pure selenide kesterite thinâ€film solar cells from largeâ€area electrodeposited precursors. Progress in Photovoltaics: Research and Applications, 2016, 24, 38-51.	4.4	52
46	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.	0.8	51
47	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.	3.0	51
48	Raman scattering analysis of electrodeposited Cu(In,Ga)Se2 solar cells: Impact of ordered vacancy compounds on cell efficiency. Applied Physics Letters, 2014, 105, .	1.5	49
49	Lead iodide film deposition and characterization. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2001, 458, 406-412.	0.7	48
50	Insights into interface and bulk defects in a high efficiency kesterite-based device. Energy and Environmental Science, 2021, 14, 507-523.	15.6	48
51	Modified Bridgman growth of CdTe crystals. Journal of Crystal Growth, 2008, 310, 2067-2071.	0.7	46
52	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
53	Bifacial Kesterite Solar Cells on FTO Substrates. ACS Sustainable Chemistry and Engineering, 2017, 5, 11516-11524.	3.2	45
54	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.	1.3	43

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55	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.	1.3	43
56	Structural and vibrational properties of Î±- and Ï€-SnS polymorphs for photovoltaic applications. Acta Materialia, 2020, 183, 1-10.	3.8	43
57	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.	4.0	42
58	Evaluation of AA-CVD deposited phase pure polymorphs of SnS for thin films solar cells. RSC Advances, 2019, 9, 14899-14909.	1.7	42
59	Emerging inorganic solar cell efficiency tables (version 2). JPhys Energy, 2021, 3, 032003.	2.3	40
60	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.	1.3	39
61	Route towards low cost-high efficiency second generation solar cells: current status and perspectives. Journal of Materials Science: Materials in Electronics, 2015, 26, 5562-5573.	1.1	38
62	Growth of bismuth tri-iodide platelets by the physical vapor deposition method. Crystal Research and Technology, 2004, 39, 912-919.	0.6	37
63	Properties of In2S3 thin films deposited onto ITO/glass substrates by chemical bath deposition. Journal of Physics and Chemistry of Solids, 2010, 71, 1629-1633.	1.9	37
64	Bismuth Tri-Iodide Polycrystalline Films for Digital X-Ray Radiography Applications. IEEE Transactions on Nuclear Science, 2004, 51, 96-100.	1.2	36
65	Compositional paradigms in multinary compound systems for photovoltaic applications: a case study of kesterites. Journal of Materials Chemistry A, 2015, 3, 9451-9455.	5.2	34
66	Physical routes for the synthesis of kesterite. JPhys Energy, 2019, 1, 042003.	2.3	34
67	Toward epitaxial lead-iodide films for X-ray digital imaging. IEEE Transactions on Nuclear Science, 2002, 49, 2274-2278.	1.2	33
68	Photoluminescence and photoconductivity in CdTe crystals doped with Bi. Journal of Applied Physics, 2006, 100, 104901.	1.1	33
69	Earth-abundant absorber based solar cells onto low weight stainless steel substrate. Solar Energy Materials and Solar Cells, 2014, 130, 347-353.	3.0	33
70	<title>Mercuric iodide polycrystalline films</title>. , 2001, , .		32
71	Toward a high Cu2ZnSnS4 solar cell efficiency processed by spray pyrolysis method. Journal of Renewable and Sustainable Energy, 2013, 5, .	0.8	32
72	Cu2ZnSnS4 thin film solar cells grown by fast thermal evaporation and thermal treatment. Solar Energy, 2017, 141, 236-241.	2.9	32

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73	Ultra-thin CdS for highly performing chalcogenides thin film based solar cells. Solar Energy Materials and Solar Cells, 2016, 158, 138-146.	3.0	31
74	Turning Earth Abundant Kesterite-Based Solar Cells Into Efficient Protected Water-Splitting Photocathodes. ACS Applied Materials & Interfaces, 2018, 10, 13425-13433.	4.0	31
75	In-situ tuning of the zinc content of pulsed-laser-deposited CZTS films and its effect on the photoconversion efficiency of p-CZTS/n-Si heterojunction photovoltaic devices. Applied Surface Science, 2020, 507, 145003.	3.1	31
76	High efficiency CIGS based solar cells with electrodeposited ZnO:Cl as transparent conducting oxide front contact. Progress in Photovoltaics: Research and Applications, 2011, 19, 537-546.	4.4	30
77	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.	0.8	29
78	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.	0.8	29
79	Rear Band gap Grading Strategies on Snâ€“Ge-Alloyed Kesterite Solar Cells. ACS Applied Energy Materials, 2020, 3, 10362-10375.	2.5	29
80	Transition-Metal Oxides for Kesterite Solar Cells Developed on Transparent Substrates. ACS Applied Materials & Interfaces, 2020, 12, 33656-33669.	4.0	29
81	Growth and properties of CdTe:Bi-doped crystals. Journal of Crystal Growth, 2006, 291, 416-423.	0.7	28
82	Characterization of Cu2ZnSnSe4 solar cells prepared from electrochemically co-deposited Cuâ€“Znâ€“Sn alloy. Solar Energy Materials and Solar Cells, 2015, 132, 21-28.	3.0	28
83	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.	1.5	28
84	Efficient Sb2Se3/CdS planar heterojunction solar cells in substrate configuration with (hk0) oriented Sb2Se3 thin films. Solar Energy Materials and Solar Cells, 2020, 215, 110603.	3.0	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.	2.9	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.	3.0	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.	3.0	26
88	Towards Low Cost and Sustainable Thin Film Thermoelectric Devices Based on Quaternary Chalcogenides. Advanced Functional Materials, 2022, 32, .	7.8	26
89	Trap and recombination centers study in sprayed Cu2ZnSnS4 thin films. Journal of Applied Physics, 2014, 116, 134503.	1.1	25
90	Heavy metal doping of CdTe crystals. IEEE Transactions on Nuclear Science, 2004, 51, 3105-3110.	1.2	23

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91	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.	4.4	23
92	Sputtered ZnSnO Buffer Layers for Kesterite Solar Cells. ACS Applied Energy Materials, 2020, 3, 1883-1891.	2.5	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.	3.1	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.	3.0	22
95	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.	0.8	21
96	Temperature dependent electrical characterization of thin film Cu₂ZnSnSe₄solar cells. Journal Physics D: Applied Physics, 2016, 49, 085101.	1.3	21
97	CdS/ZnS Bilayer Thin Films Used As Buffer Layer in 10%-Efficient Cu₂ZnSnSe₄ Solar Cells. ACS Applied Energy Materials, 2020, 3, 6815-6823.	2.5	21
98	New ways for purifying lead iodide appropriate as spectrometric grade material. IEEE Transactions on Nuclear Science, 2002, 49, 1974-1977.	1.2	20
99	Investigation of the origin of deep levels in CdTe doped with Bi. Journal of Applied Physics, 2008, 103, 094901.	1.1	20
100	Electrochemical synthesis of CuIn(S,Se)2 alloys with graded composition for high efficiency solar cells. Applied Physics Letters, 2009, 94, 061915.	1.5	20
101	Cu2ZnSnS4 thin films grown by flash evaporation and subsequent annealing in Ar atmosphere. Thin Solid Films, 2013, 535, 62-66.	0.8	20
102	Optical modeling and optimizations of Cu_2ZnSnSe_4 solar cells using the modified transfer matrix method. Optics Express, 2016, 24, A1201.	1.7	20
103	Ge doped Cu2ZnSnS4: An investigation on absorber recrystallization and opto-electronic properties of solar cell. Solar Energy Materials and Solar Cells, 2019, 198, 44-52.	3.0	20
104	Atomic layer deposition of vanadium oxide films for crystalline silicon solar cells. Materials Advances, 2022, 3, 337-345.	2.6	20
105	Optical and electrical properties of In-doped Cu2ZnSnSe4. Solar Energy Materials and Solar Cells, 2016, 151, 44-51.	3.0	19
106	Discrepancy between integral and local composition in off-stoichiometric Cu2ZnSnSe4 kesterites: A pitfall for classification. Applied Physics Letters, 2017, 110, .	1.5	19
107	Lead iodide platelets: correlation between surface, optical, and electrical properties with X- and /spl gamma/-ray spectrometric performance. IEEE Transactions on Nuclear Science, 2002, 49, 3300-3305.	1.2	18
108	Optimization of CBD-CdS physical properties for solar cell applications considering a MIS structure. Materials and Design, 2016, 99, 254-261.	3.3	18

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109	Engineering of effective back-contact barrier of CZTSe: Nanoscale Ge solar cells â€“ MoSe2 defects implication. Solar Energy, 2019, 194, 114-120.	2.9	18
110	Defects in CdTe polycrystalline films grown by physical vapour deposition. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2002, 91-92, 525-528.	1.7	17
111	Physical properties of Bi doped CdTe thin films grown by CSVT and their influence on the CdS/CdTe solar cells PV-properties. Thin Solid Films, 2007, 515, 5819-5823.	0.8	17
112	Pneumatically sprayed Cu₂ZnSnS₄films under Ar and Arâ€“H₂atmosphere. Journal Physics D: Applied Physics, 2014, 47, 245101.	1.3	17
113	Investigation on limiting factors affecting Cu2ZnGeSe4 efficiency: Effect of annealing conditions and surface treatment. Solar Energy Materials and Solar Cells, 2020, 216, 110701.	3.0	17
114	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.	4.0	17
115	Effect of post annealing thermal heating on Cu2ZnSnS4 solar cells processed by sputtering technique. Solar Energy, 2022, 237, 196-202.	2.9	17
116	<title>Comparison between sublimation and evaporation as process for growing lead iodide polycrystalline films</title>. , 2001, 4507, 99.		16
117	Simulation and characterization of CdTe:Bi crystals grown by the Markov method. Journal of Crystal Growth, 2005, 275, e471-e477.	0.7	16
118	Study of the physical properties of Bi doped CdTe thin films deposited by close space vapour transport. Thin Solid Films, 2008, 516, 3818-3823.	0.8	16
119	Combined Raman scattering/photoluminescence analysis of Cu(In,Ga)Se2 electrodeposited layers. Solar Energy, 2014, 103, 89-95.	2.9	16
120	Chemically and morphologically distinct grain boundaries in Ge-doped Cu2ZnSnSe4 solar cells revealed with STEM-EELS. Materials and Design, 2017, 122, 102-109.	3.3	16
121	Insights into the Formation Pathways of Cu₂ZnSnSe₄ Using Rapid Thermal Processes. ACS Applied Energy Materials, 2018, 1, 1981-1989.	2.5	16
122	Optimization of ink-jet printed precursors for Cu2ZnSn(S,Se)4 solar cells. Journal of Alloys and Compounds, 2018, 735, 2462-2470.	2.8	16
123	CdTe polycrystalline films for X-ray digital imaging applications. Thin Solid Films, 2005, 471, 304-309.	0.8	15
124	Towards In-reduced photovoltaic absorbers: Evaluation of zinc-blende CuInSe2-ZnSe solid solution. Solar Energy Materials and Solar Cells, 2017, 160, 26-33.	3.0	15
125	Cu-Sn-S system: Vibrational properties and coexistence of the Cu2SnS3, Cu3SnS4 and Cu4SnS4 compounds. Scripta Materialia, 2020, 186, 180-184.	2.6	15
126	Some structural aspects of PbxCd1âˆ’xTe bulk material. EPJ Applied Physics, 2004, 27, 427-430.	0.3	14

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127	Physical properties of Bi doped CdTe thin films grown by the CSVT method. Solar Energy Materials and Solar Cells, 2006, 90, 2228-2234.	3.0	14
128	A study of the optical absorption in CdTe by photoacoustic spectroscopy. Journal of Materials Science, 2007, 42, 7176-7179.	1.7	14
129	Effect of rapid thermal annealing on the Mo back contact properties for Cu2ZnSnSe4 solar cells. Journal of Alloys and Compounds, 2016, 675, 158-162.	2.8	14
130	Improved quantum efficiency models of CZTSe: GE nanolayer solar cells with a linear electric field. Nanoscale, 2018, 10, 2990-2997.	2.8	14
131	<title>Growth of lead iodide platelets for room temperature x-ray detection by the vapor transport method</title>. , 2001, , .		13
132	Characterization of optical and electrical properties of CdTe:Yb co-doped with Ge. Journal of Crystal Growth, 2006, 286, 384-388.	0.7	13
133	Phase evolution during CuInSe2 electrodeposition on polycrystalline Mo. Thin Solid Films, 2010, 518, 3674-3679.	0.8	13
134	Temperature dependent electroreflectance study of Cu2ZnSnSe4 solar cells. Materials Science in Semiconductor Processing, 2015, 39, 251-254.	1.9	13
135	Zn-poor Cu₂ ZnSnSe₄ thin films and solar cell devices. Physica Status Solidi (A) Applications and Materials Science, 2015, 212, 109-115.	0.8	13
136	Cu2ZnSnSe4 based solar cells combining co-electrodeposition and rapid thermal processing. Solar Energy, 2018, 173, 955-963.	2.9	13
137	Partial substitution of the CdS buffer layer with interplay of fullerenes in kesterite solar cells. Journal of Materials Chemistry C, 2020, 8, 12533-12542.	2.7	13
138	Uncovering details behind the formation mechanisms of Cu2ZnGeSe4 photovoltaic absorbers. Journal of Materials Chemistry C, 2020, 8, 4003-4011.	2.7	13
139	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.	5.2	13
140	Life cycle assessment of different chalcogenide thin-film solar cells. Applied Energy, 2022, 313, 118888.	5.1	13
141	Polycrystalline Lead Iodide Films: Optical, Electrical and X-ray Counting Characterization. Materials Research Society Symposia Proceedings, 2001, 685, 1.	0.1	12
142	Effect of Yb concentration on the resistivity and lifetime of CdTe:Ge:Yb codoped crystals. Applied Physics Letters, 2007, 91, .	1.5	12
143	Hexagonal CdTe-Like Rods Prompted from Bi2Te3Droplets. Journal of Physical Chemistry C, 2007, 111, 5588-5591.	1.5	12
144	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

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145	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.	0.8	12
146	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.	4.4	12
147	UVâ€Selective Optically Transparent Zn(O,S)â€Based Solar Cells. Solar Rrl, 2020, 4, 2000470.	3.1	12
148	Defect Characterization of CdTe Bulk Crystals Doped with Heavy Elements and Rare Earths. Materials Research Society Symposia Proceedings, 2005, 864, 4181.	0.1	11
149	Selenization of Cu2ZnSnS4 thin films obtained by pneumatic spray pyrolysis. Journal of Analytical and Applied Pyrolysis, 2016, 120, 45-51.	2.6	11
150	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
151	On the Germanium Incorporation in Cu₂ZnSnSe₄ Kesterite Solar Cells Boosting Their Efficiency. ACS Applied Energy Materials, 2020, 3, 558-564.	2.5	11
152	Rear interface engineering of kesterite Cu₂ZnSnSe₄ solar cells by adding CuGaSe₂ thin layers. Progress in Photovoltaics: Research and Applications, 2021, 29, 334-343.	4.4	11
153	Bi doped CdTe: increasing potentialities of CdTe based solar cells. Journal of Physics Condensed Matter, 2006, 18, 7163-7169.	0.7	10
154	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.	0.8	10
155	Vitreous enamel as sodium source for efficient kesterite solar cells on commercial ceramic tiles. Solar Energy Materials and Solar Cells, 2016, 154, 11-17.	3.0	10
156	Compositional Dependence of Chemical and Electrical Properties in Cu₂ZnSnS₄Thin Films. IEEE Journal of Photovoltaics, 2016, 6, 990-996.	1.5	10
157	High efficiency Cu₂ZnSnS₄ solar cells over FTO substrates and their CZTS/CdS interface passivation <i>via</i> thermal evaporation of Al₂O₃. Journal of Materials Chemistry C, 2021, 9, 5356-5361.	2.7	10
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