Chao Chen

List of Publications by Year
in descending order

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77 papers	9,810 citations	61984 43 h-index	71685 76 g-index
79 all docs	79 docs citations	79 times ranked	9997 citing authors

#	Article	IF	Citations
1	Phaseâ€Transfer Exchange Lead Chalcogenide Colloidal Quantum Dots: Ink Preparation, Film Assembly, and Solar Cell Construction. Small, 2022, 18, e2102340.	10.0	15
2	pâ€Type Antimony Selenide via Lead Doping. Solar Rrl, 2022, 6, 2100730.	5.8	12
3	Emerging Chalcogenide Thin Films for Solar Energy Harvesting Devices. Chemical Reviews, 2022, 122, 10170-10265.	47.7	81
4	Chemical Potential Diagram Guided Rational Tuning of Electrical Properties: A Case Study of CsPbBr₃ for Xâ€ray Detection. Advanced Materials, 2022, 34, e2110252.	21.0	24
5	Ten Years of Sb₂Se₃ Thin Film Solar Cells. Solar Rrl, 2022, 6, .	5.8	50
6	Efficient Sb₂(S,Se)₃ solar cells via monitorable chemical bath deposition. Journal of Materials Chemistry A, 2022, 10, 11625-11635.	10.3	22
7	Fabrication and Optimization of CdSe Solar Cells for Possible Top Cell of Siliconâ€Based Tandem Devices. Advanced Energy Materials, 2022, 12, .	19.5	12
8	A Smart Way to Prepare Solutionâ€Processed and Annealingâ€free PCBM Electron Transporting Layer for Perovskite Solar Cells. Advanced Sustainable Systems, 2022, 6, .	5.3	13
9	Coupled Electronic and Anharmonic Structural Dynamics for Carrier Selfâ€Trapping in Photovoltaic Antimony Chalcogenides. Advanced Science, 2022, 9, .	11.2	16
10	Recent progress in the research on using CuSbS2 and its derivative CuPbSbS3 as absorbers in case of photovoltaic devices. Frontiers of Optoelectronics, 2021, 14, 450-458.	3.7	8
11	Defectâ€Resolved Effective Majority Carrier Mobility in Highly Anisotropic Antimony Chalcogenide Thinâ€Film Solar Cells. Solar Rrl, 2021, 5, 2000693.	5.8	22
12	An antibonding valence band maximum enables defect-tolerant and stable GeSe photovoltaics. Nature Communications, 2021, 12, 670.	12.8	58
13	Efficiency Improvement of Bournonite CuPbSbS₃ Solar Cells via Crystallinity Enhancement. ACS Applied Materials & Interfaces, 2021, 13, 13273-13280.	8.0	13
14	Low-dimensional materials for photovoltaic application. Journal of Semiconductors, 2021, 42, 031701.	3.7	17
15	High-efficient Sb2Se3 solar cell using ZnxCd1-xS n-type layer. Applied Physics Letters, 2021, 118, .	3.3	22
16	Suppressing the Trapping Process by Interfacial Charge Extraction in Antimony Selenide Heterojunctions. ACS Energy Letters, 2021, 6, 1740-1748.	17.4	33
17	Rapid thermal evaporation for cadmium selenide thin-film solar cells. Frontiers of Optoelectronics, 2021, 14, 482-490.	3.7	17
18	Sb2Se3 solar cells employing metal-organic solution coated CdS buffer layer. Solar Energy Materials and Solar Cells, 2021, 225, 111043.	6.2	14

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19	One-dimensional Sb2Se3 enabling ultra-flexible solar cells and mini-modules for IoT applications. Nano Energy, 2021, 86, 106101.	16.0	30
20	Filterâ€free selfâ€power <scp>CdSe</scp>/Sb₂(S_{1â^'x},Se_x)₃ nearinfrared narrowband detection and imaging. InformaÄnÃ-MateriÃ¡ly, 2021, 3, 1145-1153.	17.3	33
21	Strong Second- and Third-Harmonic Generation in 1D Chiral Hybrid Bismuth Halides. Journal of the American Chemical Society, 2021, 143, 16095-16104.	13.7	74
22	HTL-Free Sb₂(S, Se)₃ Solar Cells with an Optimal Detailed Balance Band Gap. ACS Applied Materials & Interfaces, 2021, 13, 46858-46865.	8.0	33
23	Study of thermoelectric properties in the PEDOT:PSS/Te double-layer thin film devices. Composites Communications, 2021, 27, 100888.	6.3	7
24	Sb2Se3 film with grain size over 10 Âµm toward X-ray detection. Frontiers of Optoelectronics, 2021, 14, 341-351.	3.7	8
25	Flexible Sb2Se3 solar mini-module for IoT application. , 2021, , .		0
26	One-Dimensional Sb₂Se₃ Enabling a Highly Flexible Photodiode for Light-Source-Free Heart Rate Detection. ACS Photonics, 2020, 7, 352-360.	6.6	53
27	Efficient PbSe Colloidal Quantum Dot Solar Cells Using SnO₂ as a Buffer Layer. ACS Applied Materials & Interfaces, 2020, 12, 2566-2571.	8.0	21
28	Probing the trap states in Nâ€“iâ€“P Sb2(S,Se)3 solar cells by deep-level transient spectroscopy. Journal of Chemical Physics, 2020, 153, 124703.	3.0	16
29	Possible top cells for next-generation Si-based tandem solar cells. Frontiers of Optoelectronics, 2020, 13, 246-255.	3.7	29
30	Over 7% Efficiency of Sb₂(S,Se)₃ Solar Cells via Vâ€Shaped Bandgap Engineering. Solar Rrl, 2020, 4, 2000220.	5.8	58
31	In situ investigation of interfacial properties of Sb2Se3 heterojunctions. Applied Physics Letters, 2020, 116, .	3.3	18
32	Open-Circuit Voltage Loss of Antimony Chalcogenide Solar Cells: Status, Origin, and Possible Solutions. ACS Energy Letters, 2020, 5, 2294-2304.	17.4	146
33	Circularly Polarized Luminescence from Chiral Tetranuclear Copper(I) Iodide Clusters. Journal of Physical Chemistry Letters, 2020, 11, 1255-1260.	4.6	79
34	Bournonite CuPbSbS3: An electronically-3D, defect-tolerant, and solution-processable semiconductor for efficient solar cells. Nano Energy, 2020, 71, 104574.	16.0	24
35	Efficiency improvement of flexible Sb2Se3 solar cells with non-toxic buffer layer via interface engineering. Nano Energy, 2020, 71, 104577.	16.0	69
36	Pulsed laser deposition of antimony selenosulfide thin film for efficient solar cells. Applied Physics Letters, 2020, 116, .	3.3	16

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37	Semiconductor Quantum Dotsâ€Embedded Inorganic Glasses: Fabrication, Luminescent Properties, and Potential Applications. Advanced Optical Materials, 2019, 7, 1900851.	7.3	86
38	Both Free and Trapped Carriers Contribute to Photocurrent of Sb₂Se₃ Solar Cells. Journal of Physical Chemistry Letters, 2019, 10, 4881-4887.	4.6	47
39	Butyldithiocarbamate acid solution processing: its fundamentals and applications in chalcogenide thin film solar cells. Journal of Materials Chemistry C, 2019, 7, 11068-11084.	5.5	31
40	Sulfur-annulated perylenediimide as an interfacial material enabling inverted perovskite solar cells with over 20% efficiency and high fill factors exceeding 83%. Journal of Materials Chemistry A, 2019, 7, 21176-21181.	10.3	15
41	Orientation Engineering in Lowâ€Dimensional Crystalâ€Structural Materials via Seed Screening. Advanced Materials, 2019, 31, e1903914.	21.0	104
42	Lead Selenide (PbSe) Colloidal Quantum Dot Solar Cells with >10% Efficiency. Advanced Materials, 2019, 31, e1900593.	21.0	80
43	Antimony doped Cs2SnCl6 with bright and stable emission. Frontiers of Optoelectronics, 2019, 12, 352-364.	3.7	103
44	Circularly polarized light detection using chiral hybrid perovskite. Nature Communications, 2019, 10, 1927.	12.8	313
45	Chiral 2D Perovskites with a High Degree of Circularly Polarized Photoluminescence. ACS Nano, 2019, 13, 3659-3665.	14.6	334
46	7.5% nâ€“iâ€“p Sb₂Se₃ solar cells with CuSCN as a hole-transport layer. Journal of Materials Chemistry A, 2019, 7, 9665-9672.	10.3	89
47	Alternative back contacts for Sb2Se3 solar cells. Solar Energy, 2019, 182, 96-101.	6.1	48
48	Sb₂(Se_{1â€x}S_x)₃ Thinâ€Film Solar Cells Fabricated by Singleâ€Source Vapor Transport Deposition. Solar Rrl, 2019, 3, 1800280.	5.8	48
49	Improved efficiency by insertion of Zn1â^'xMgxO through sol-gel method in ZnO/Sb2Se3 solar cell. Solar Energy, 2018, 167, 10-17.	6.1	51
50	Achieving high-performance PbS quantum dot solar cells by improving hole extraction through Ag doping. Nano Energy, 2018, 46, 212-219.	16.0	72
51	Stable and efficient CdS/Sb2Se3 solar cells prepared by scalable close space sublimation. Nano Energy, 2018, 49, 346-353.	16.0	130
52	Sb2S3 Solar Cells. Joule, 2018, 2, 857-878.	24.0	382
53	Sb₂Se₃ Thinâ€Film Photovoltaics Using Aqueous Solution Sprayed SnO₂ as the Buffer Layer. Advanced Electronic Materials, 2018, 4, 1700329.	5.1	49
54	Efficiency Improvement of Sb₂Se₃ Solar Cells via Grain Boundary Inversion. ACS Energy Letters, 2018, 3, 2335-2341.	17.4	112

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55	Vapor transport deposition of antimony selenide thin film solar cells with 7.6% efficiency. Nature Communications, 2018, 9, 2179.	12.8	426
56	Efficiency improvement of Sb2Se3 solar cell via grain boundary inversion. , 2018, , .		0
57	Characterization of basic physical properties of Sb2Se3 and its relevance for photovoltaics. Frontiers of Optoelectronics, 2017, 10, 18-30.	3.7	301
58	Highly Anisotropic Sb₂Se₃ Nanosheets: Gentle Exfoliation from the Bulk Precursors Possessing 1D Crystal Structure. Advanced Materials, 2017, 29, 1700441.	21.0	125
59	Enhanced Sb₂Se₃solar cell performance through theory-guided defect control. Progress in Photovoltaics: Research and Applications, 2017, 25, 861-870.	8.1	154
60	Stable 6%-efficient Sb2Se3 solar cells with a ZnO buffer layer. Nature Energy, 2017, 2, .	39.5	441
61	Cs2AgBiBr6 single-crystal X-ray detectors with a low detection limit. Nature Photonics, 2017, 11, 726-732.	31.4	984
62	6.5% Certified Efficiency Sb₂Se₃ Solar Cells Using PbS Colloidal Quantum Dot Film as Hole-Transporting Layer. ACS Energy Letters, 2017, 2, 2125-2132.	17.4	193
63	Magnetron sputtered ZnO buffer layer for Sb2Se3 thin film solar cells. Solar Energy Materials and Solar Cells, 2017, 172, 74-81.	6.2	70
64	Accelerated Optimization of TiO₂/Sb₂Se₃ Thin Film Solar Cells by Highâ€Throughput Combinatorial Approach. Advanced Energy Materials, 2017, 7, 1700866.	19.5	125
65	Buried homojunction in CdS/Sb2Se3 thin film photovoltaics generated by interfacial diffusion. Applied Physics Letters, 2017, 111, .	3.3	71
66	In situ sulfurization to generate Sb₂(Se_{1â€‰â”‚â€‰x}S_x)₃ alloyed films and their application for photovoltaics. Progress in Photovoltaics: Research and Applications, 2017, 25, 113-122.	8.1	70
67	Graphene Doping Improved Device Performance of ZnMgO/PbS Colloidal Quantum Dot Photovoltaics. Advanced Functional Materials, 2016, 26, 1899-1907.	14.9	85
68	Characterization of Mg and Fe doped Sb2Se3 thin films for photovoltaic application. Applied Physics Letters, 2016, 109, .	3.3	39
69	Broadband, sensitive and spectrally distinctive SnS2 nanosheet/PbS colloidal quantum dot hybrid photodetector. Light: Science and Applications, 2016, 5, e16126-e16126.	16.6	113
70	The effect of sodium on antimony selenide thin film solar cells. RSC Advances, 2016, 6, 87288-87293.	3.6	31
71	Passivated Single-Crystalline CH₃NH₃PbI₃ Nanowire Photodetector with High Detectivity and Polarization Sensitivity. Nano Letters, 2016, 16, 7446-7454.	9.1	324
72	Improving the performance of Sb₂Se₃ thin film solar cells over 4% by controlled addition of oxygen during film deposition. Progress in Photovoltaics: Research and Applications, 2015, 23, 1828-1836.	8.1	120

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73	Optical properties of amorphous and polycrystalline Sb2Se3 thin films prepared by thermal evaporation. Applied Physics Letters, 2015, 107, .	3.3	174
74	Selenization of Sb2Se3 absorber layer: An efficient step to improve device performance of CdS/Sb2Se3 solar cells. Applied Physics Letters, 2014, 105, .	3.3	146
75	Highly Crystalline Multimetallic Nanoframes with Three-Dimensional Electrocatalytic Surfaces. Science, 2014, 343, 1339-1343.	12.6	2,376
76	Thermal evaporation and characterization of superstrate CdS/Sb2Se3 solar cells. Applied Physics Letters, 2014, 104, .	3.3	133
77	Rapid thermal annealing process for Se thin-film solar cells. Faraday Discussions, 0, 239, 317-327.	3.2	10