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	Highly Crystalline Multimetallic Nanoframes with Three-Dimensional Electrocatalytic Surfaces. Science, 2014, 343, 1339-1343.	12.6	2,376
2	Cs2AgBiBr6 single-crystal X-ray detectors with a low detection limit. Nature Photonics, 2017, 11, 726-732.	31.4	984
3	Stable 6%-efficient Sb2Se3 solar cells with a ZnO buffer layer. Nature Energy, 2017, 2, .	39.5	441
4	Vapor transport deposition of antimony selenide thin film solar cells with 7.6% efficiency. Nature Communications, 2018, 9, 2179.	12.8	426
5	Sb2S3 Solar Cells. Joule, 2018, 2, 857-878.	24.0	382
6	Chiral 2D Perovskites with a High Degree of Circularly Polarized Photoluminescence. ACS Nano, 2019, 13, 3659-3665.	14.6	334
7	Passivated Single-Crystalline CH₃NH₃PbI₃ Nanowire Photodetector with High Detectivity and Polarization Sensitivity. Nano Letters, 2016, 16, 7446-7454.	9.1	324
8	Circularly polarized light detection using chiral hybrid perovskite. Nature Communications, 2019, 10, 1927.	12.8	313
9	Characterization of basic physical properties of Sb2Se3 and its relevance for photovoltaics. Frontiers of Optoelectronics, 2017, 10, 18-30.	3.7	301
10	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
11	Optical properties of amorphous and polycrystalline Sb2Se3 thin films prepared by thermal evaporation. Applied Physics Letters, 2015, 107, .	3.3	174
12	Enhanced Sb₂Se₃solar cell performance through theory-guided defect control. Progress in Photovoltaics: Research and Applications, 2017, 25, 861-870.	8.1	154
13	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
14	Open-Circuit Voltage Loss of Antimony Chalcogenide Solar Cells: Status, Origin, and Possible Solutions. ACS Energy Letters, 2020, 5, 2294-2304.	17.4	146
15	Thermal evaporation and characterization of superstrate CdS/Sb2Se3 solar cells. Applied Physics Letters, 2014, 104, .	3.3	133
16	Stable and efficient CdS/Sb2Se3 solar cells prepared by scalable close space sublimation. Nano Energy, 2018, 49, 346-353.	16.0	130
17	Highly Anisotropic Sb₂Se₃ Nanosheets: Gentle Exfoliation from the Bulk Precursors Possessing 1D Crystal Structure. Advanced Materials, 2017, 29, 1700441.	21.0	125
18	Accelerated Optimization of TiO₂/Sb₂Se₃ Thin Film Solar Cells by Highâ€Throughput Combinatorial Approach. Advanced Energy Materials, 2017, 7, 1700866.	19.5	125

#	Article	IF	Citations
19	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
20	Broadband, sensitive and spectrally distinctive SnS2 nanosheet/PbS colloidal quantum dot hybrid photodetector. Light: Science and Applications, 2016, 5, e16126-e16126.	16.6	113
21	Efficiency Improvement of Sb₂Se₃ Solar Cells via Grain Boundary Inversion. ACS Energy Letters, 2018, 3, 2335-2341.	17.4	112
22	Orientation Engineering in Lowâ€Dimensional Crystalâ€Structural Materials via Seed Screening. Advanced Materials, 2019, 31, e1903914.	21.0	104
23	Antimony doped Cs2SnCl6 with bright and stable emission. Frontiers of Optoelectronics, 2019, 12, 352-364.	3.7	103
24	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
25	Semiconductor Quantum Dotsâ€Embedded Inorganic Glasses: Fabrication, Luminescent Properties, and Potential Applications. Advanced Optical Materials, 2019, 7, 1900851.	7.3	86
26	Graphene Doping Improved Device Performance of ZnMgO/PbS Colloidal Quantum Dot Photovoltaics. Advanced Functional Materials, 2016, 26, 1899-1907.	14.9	85
27	Emerging Chalcogenide Thin Films for Solar Energy Harvesting Devices. Chemical Reviews, 2022, 122, 10170-10265.	47.7	81
28	Lead Selenide (PbSe) Colloidal Quantum Dot Solar Cells with >10% Efficiency. Advanced Materials, 2019, 31, e1900593.	21.0	80
29	Circularly Polarized Luminescence from Chiral Tetranuclear Copper(I) Iodide Clusters. Journal of Physical Chemistry Letters, 2020, 11, 1255-1260.	4.6	79
30	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
31	Achieving high-performance PbS quantum dot solar cells by improving hole extraction through Ag doping. Nano Energy, 2018, 46, 212-219.	16.0	72
32	Buried homojunction in CdS/Sb2Se3 thin film photovoltaics generated by interfacial diffusion. Applied Physics Letters, 2017, 111, .	3.3	71
33	Magnetron sputtered ZnO buffer layer for Sb2Se3 thin film solar cells. Solar Energy Materials and Solar Cells, 2017, 172, 74-81.	6.2	70
34	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
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	Over 7% Efficiency of Sb₂(S,Se)₃ Solar Cells via Vâ€Shaped Bandgap Engineering. Solar Rrl, 2020, 4, 2000220.	5.8	58

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37	An antibonding valence band maximum enables defect-tolerant and stable GeSe photovoltaics. Nature Communications, 2021, 12, 670.	12.8	58
38	One-Dimensional Sb₂Se₃ Enabling a Highly Flexible Photodiode for Light-Source-Free Heart Rate Detection. ACS Photonics, 2020, 7, 352-360.	6.6	53
39	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
40	Ten Years of Sb₂Se₃ Thin Film Solar Cells. Solar Rrl, 2022, 6, .	5.8	50
41	Sb₂Se₃ Thinâ€Film Photovoltaics Using Aqueous Solution Sprayed SnO₂ as the Buffer Layer. Advanced Electronic Materials, 2018, 4, 1700329.	5.1	49
42	Alternative back contacts for Sb2Se3 solar cells. Solar Energy, 2019, 182, 96-101.	6.1	48
43	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
44	Both Free and Trapped Carriers Contribute to Photocurrent of Sb₂Se₃ Solar Cells. Journal of Physical Chemistry Letters, 2019, 10, 4881-4887.	4.6	47
45	Characterization of Mg and Fe doped Sb2Se3 thin films for photovoltaic application. Applied Physics Letters, 2016, 109, .	3.3	39
46	Suppressing the Trapping Process by Interfacial Charge Extraction in Antimony Selenide Heterojunctions. ACS Energy Letters, 2021, 6, 1740-1748.	17.4	33
47	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
48	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
49	The effect of sodium on antimony selenide thin film solar cells. RSC Advances, 2016, 6, 87288-87293.	3.6	31
50	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
51	One-dimensional Sb2Se3 enabling ultra-flexible solar cells and mini-modules for IoT applications. Nano Energy, 2021, 86, 106101.	16.0	30
52	Possible top cells for next-generation Si-based tandem solar cells. Frontiers of Optoelectronics, 2020, 13, 246-255.	3.7	29
53	Bournonite CuPbSbS3: An electronically-3D, defect-tolerant, and solution-processable semiconductor for efficient solar cells. Nano Energy, 2020, 71, 104574.	16.0	24
54	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

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55	Defectâ€Resolved Effective Majority Carrier Mobility in Highly Anisotropic Antimony Chalcogenide Thinâ€Film Solar Cells. Solar Rrl, 2021, 5, 2000693.	5.8	22
56	High-efficient Sb2Se3 solar cell using ZnxCd1-xS n-type layer. Applied Physics Letters, 2021, 118, .	3.3	22
57	Efficient Sb₂(S,Se)₃ solar cells via monitorable chemical bath deposition. Journal of Materials Chemistry A, 2022, 10, 11625-11635.	10.3	22
58	Efficient PbSe Colloidal Quantum Dot Solar Cells Using SnO₂ as a Buffer Layer. ACS Applied Materials & Interfaces, 2020, 12, 2566-2571.	8.0	21
59	In situ investigation of interfacial properties of Sb2Se3 heterojunctions. Applied Physics Letters, 2020, 116, .	3.3	18
60	Low-dimensional materials for photovoltaic application. Journal of Semiconductors, 2021, 42, 031701.	3.7	17
61	Rapid thermal evaporation for cadmium selenide thin-film solar cells. Frontiers of Optoelectronics, 2021, 14, 482-490.	3.7	17
62	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
63	Pulsed laser deposition of antimony selenosulfide thin film for efficient solar cells. Applied Physics Letters, 2020, 116, .	3.3	16
64	Coupled Electronic and Anharmonic Structural Dynamics for Carrier Selfâ€Trapping in Photovoltaic Antimony Chalcogenides. Advanced Science, 2022, 9, .	11.2	16
65	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
66	Phaseâ€Transfer Exchange Lead Chalcogenide Colloidal Quantum Dots: Ink Preparation, Film Assembly, and Solar Cell Construction. Small, 2022, 18, e2102340.	10.0	15
67	Sb2Se3 solar cells employing metal-organic solution coated CdS buffer layer. Solar Energy Materials and Solar Cells, 2021, 225, 111043.	6.2	14
68	Efficiency Improvement of Bournonite CuPbSbS₃ Solar Cells via Crystallinity Enhancement. ACS Applied Materials & Interfaces, 2021, 13, 13273-13280.	8.0	13
69	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
70	pâ€Type Antimony Selenide via Lead Doping. Solar Rrl, 2022, 6, 2100730.	5.8	12
71	Fabrication and Optimization of CdSe Solar Cells for Possible Top Cell of Siliconâ€Based Tandem Devices. Advanced Energy Materials, 2022, 12, .	19.5	12
72	Rapid thermal annealing process for Se thin-film solar cells. Faraday Discussions, 0, 239, 317-327.	3.2	10

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73	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
74	Sb2Se3 film with grain size over 10 Âμm toward X-ray detection. Frontiers of Optoelectronics, 2021, 14, 341-351.	3.7	8
75	Study of thermoelectric properties in the PEDOT:PSS/Te double-layer thin film devices. Composites Communications, 2021, 27, 100888.	6.3	7
76	Efficiency improvement of Sb2Se3 solar cell via grain boundary inversion. , 2018, , .		0
77	Flexible Sb2Se3 solar mini-module for IoT application. , 2021, , .		0