

Daniel J Friedman

List of Publications by Year in descending order

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82
papers

2,166
citations

236925

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84
docs citations

84
times ranked

1918
citing authors

#	ARTICLE	IF	CITATIONS
1	How Useful are Conventional χ^2 's for Performance Calibration of Single- and Two-Junction Perovskite Solar Cells? A Statistical Analysis of Performance Data on ~ 200 Cells from 30 Global Sources. <i>Solar Rrl</i> , 2022, 6, 2100867.	5.8	6
2	How Useful are Conventional χ^2 's for Performance Calibration of Single- and Two-Junction Perovskite Solar Cells? A Statistical Analysis of Performance Data on ~ 200 Cells from 30 Global Sources. <i>Solar Rrl</i> , 2022, 6, 2270013.	5.8	1
3	Thermophotovoltaic efficiency of 40%. <i>Nature</i> , 2022, 604, 287-291.	27.8	108
4	An all optical approach for comprehensive in-operando analysis of radiative and nonradiative recombination processes in GaAs double heterostructures. <i>Light: Science and Applications</i> , 2022, 11, 137.	16.6	5
5	Comprehensive Performance Calibration Guidance for Perovskites and Other Emerging Solar Cells. <i>Advanced Energy Materials</i> , 2021, 11, 2100728.	19.5	13
6	Distribution of the spectral response of cells in silicon modules – mechanisms and implications. , 2021, , .		0
7	Reliable Power Rating of Perovskite PV Modules. , 2021, , .		4
8	Reverse Heterojunction (Al)GaInP Solar Cells for Improved Efficiency at Concentration. <i>IEEE Journal of Photovoltaics</i> , 2020, 10, 487-494.	2.5	8
9	Highly efficient and durable III-V semiconductor-catalyst photocathodes χ^2 a transparent protection layer. <i>Sustainable Energy and Fuels</i> , 2020, 4, 1437-1442.	4.9	9
10	Inverted metamorphic AlGaInAs/GaInAs tandem thermophotovoltaic cell designed for thermal energy grid storage application. <i>Journal of Applied Physics</i> , 2020, 128, .	2.5	10
11	Addressing the Stability Gap in Photoelectrochemistry: Molybdenum Disulfide Protective Catalysts for Tandem III-V Unassisted Solar Water Splitting. <i>ACS Energy Letters</i> , 2020, 5, 2631-2640.	17.4	48
12	Comparative studies of optoelectrical properties of prominent PV materials: Halide perovskite, CdTe, and GaAs. <i>Materials Today</i> , 2020, 36, 18-29.	14.2	33
13	Combining Indoor and Outdoor Measurements to Lower Uncertainty in PV Modules Performance. , 2020, , .		1
14	Photoelectrochemical water splitting using strain-balanced multiple quantum well photovoltaic cells. <i>Sustainable Energy and Fuels</i> , 2019, 3, 2837-2844.	4.9	14
15	High performance III-V photoelectrodes for solar water splitting via synergistically tailored structure and stoichiometry. <i>Nature Communications</i> , 2019, 10, 3388.	12.8	42
16	Interfacial engineering of gallium indium phosphide photoelectrodes for hydrogen evolution with precious metal and non-precious metal based catalysts. <i>Journal of Materials Chemistry A</i> , 2019, 7, 16821-16832.	10.3	24
17	Thermal energy grid storage using multi-junction photovoltaics. <i>Energy and Environmental Science</i> , 2019, 12, 334-343.	30.8	93
18	Printed assemblies of microscale triple-junction inverted metamorphic GaInP/GaAs/InGaAs solar cells. <i>Progress in Photovoltaics: Research and Applications</i> , 2019, 27, 520-527.	8.1	8

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19	Design of Thermophotovoltaic Cells for Optimal System Efficiency, Accounting for Photon Reuse from Front and Back Contacts. , 2019, , .		0
20	Building a Six-Junction Inverted Metamorphic Concentrator Solar Cell. IEEE Journal of Photovoltaics, 2018, 8, 626-632.	2.5	148
21	High-efficiency inverted metamorphic 1.7/1.1 eV GaInAsP/GaInAs dual-junction solar cells. Applied Physics Letters, 2018, 112, .	3.3	47
22	(Al)GaInP/GaAs Tandem Solar Cells for Power Conversion at Elevated Temperature and High Concentration. IEEE Journal of Photovoltaics, 2018, 8, 640-645.	2.5	17
23	Spectral binning for energy production calculations and multijunction solar cell design. Progress in Photovoltaics: Research and Applications, 2018, 26, 48-54.	8.1	11
24	Six-junction concentrator solar cells. AIP Conference Proceedings, 2018, , .	0.4	21
25	Tunable Bandgap GaInAsP Solar Cells With 18.7% Photoconversion Efficiency Synthesized by Low-Cost and High-Growth Rate Hydride Vapor Phase Epitaxy. IEEE Journal of Photovoltaics, 2018, 8, 1577-1583.	2.5	13
26	String-Level Modeling of Two, Three, and Four Terminal Si-Based Tandem Modules. IEEE Journal of Photovoltaics, 2018, 8, 1370-1375.	2.5	26
27	Energy Yield Analysis of Multiterminal Si-Based Tandem Solar Cells. IEEE Journal of Photovoltaics, 2018, 8, 1376-1383.	2.5	26
28	Yield analysis and comparison of GaInP/Si and GaInP/GaAs multi-terminal tandem solar cells. AIP Conference Proceedings, 2018, , .	0.4	2
29	Multijunction solar cell design revisited: disruption of current matching by atmospheric absorption bands. Progress in Photovoltaics: Research and Applications, 2017, 25, 850-860.	8.1	15
30	Pathway to 50% efficient inverted metamorphic concentrator solar cells. AIP Conference Proceedings, 2017, , .	0.4	15
31	Spectral and Concentration Sensitivity of Multijunction Solar Cells at High Temperature. , 2017, , .		0
32	AlGaInP/GaAs Tandem Solar Cells for Power Conversion at 400Å°C and 1000X Concentration. , 2017, , .		0
33	Printed Assemblies of Microscale Triple-Junction (3J) Inverted Metamorphic (IMM) GaInP/GaAs/InGaAs Solar Cells. , 2017, , .		0
34	III-V/Si tandem cell to module interconnection - comparison between different operation modes. , 2017, , .		1
35	Notice of Removal Measurements and modeling of III-V solar cells at high temperatures up to 400Å°C. , 2017, , .		1
36	AlGaInP/GaAs tandem solar cells for power conversion at 400Å°C and high concentration. AIP Conference Proceedings, 2017, , .	0.4	8

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37	Effect of Atmospheric Absorption Bands on the Optimal Design of Multijunction Solar Cells. , 2017, , .		0
38	Progress toward an advanced four-subcell inverted metamorphic multi-junction (IMM) solar cell. Progress in Photovoltaics: Research and Applications, 2016, 24, 139-149.	8.1	8
39	Towards the ultimate multi-junction solar cell using transfer printing. , 2016, , .		3
40	Development of High-Bandgap AlGaInP Solar Cells Grown by Organometallic Vapor-Phase Epitaxy. IEEE Journal of Photovoltaics, 2016, 6, 770-776.	2.5	48
41	Measurements and Modeling of III-V Solar Cells at High Temperatures up to 400 $^{\circ}\text{C}$. IEEE Journal of Photovoltaics, 2016, 6, 1345-1352.	2.5	40
42	Optically Enhanced Photon Recycling in Mechanically Stacked Multijunction Solar Cells. IEEE Journal of Photovoltaics, 2016, 6, 358-365.	2.5	33
43	Design Flexibility of Ultrahigh Efficiency Four-Junction Inverted Metamorphic Solar Cells. IEEE Journal of Photovoltaics, 2016, 6, 578-583.	2.5	79
44	Metamorphic III-V Solar Cells: Recent Progress and Potential. IEEE Journal of Photovoltaics, 2016, 6, 366-373.	2.5	25
45	High aspect ratio electrodeposited Ni/Au contacts for GaAs-based III-V concentrator solar cells. Progress in Photovoltaics: Research and Applications, 2015, 23, 646-653.	8.1	25
46	Energy yield determination of concentrator solar cells using laboratory measurements. AIP Conference Proceedings, 2015, , .	0.4	3
47	Development of a 2.0 eV AlGaInP solar cell grown by OMVPE. , 2015, , .		11
48	Field spectra binning for energy production calculations and multijunction solar cell design. , 2015, , .		3
49	Generalized Optoelectronic Model of Series-Connected Multijunction Solar Cells. IEEE Journal of Photovoltaics, 2015, 5, 1827-1839.	2.5	97
50	Development of highly-efficient GaInP/Si Tandem Solar Cells. , 2015, , .		8
51	Implications of Redesigned, High-Radiative-Efficiency GaInP Junctions on III-V Multijunction Concentrator Solar Cells. IEEE Journal of Photovoltaics, 2015, 5, 418-424.	2.5	17
52	Quadruple-Junction Inverted Metamorphic Concentrator Devices. IEEE Journal of Photovoltaics, 2015, 5, 432-437.	2.5	101
53	Two-terminal metal-interconnected multijunction III-V solar cells. Progress in Photovoltaics: Research and Applications, 2015, 23, 593-599.	8.1	13
54	Optimization of Multijunction Solar Cells Through Indoor Energy Yield Measurements. IEEE Journal of Photovoltaics, 2015, 5, 438-445.	2.5	11

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55	Progress Towards a 30% Efficient GaInP/Si Tandem Solar Cell. Energy Procedia, 2015, 77, 464-469.	1.8	87
56	A new class of multi-bandgap high-efficiency photovoltaics enabled by broadband diffractive optics. Progress in Photovoltaics: Research and Applications, 2015, 23, 1073-1079.	8.1	29
57	Device characterization for design optimization of 4 junction inverted metamorphic concentrator solar cells. AIP Conference Proceedings, 2014, , .	0.4	17
58	Ultrabroadband and Wide-Angle Hybrid Antireflection Coatings With Nanostructures. IEEE Journal of Photovoltaics, 2014, 4, 962-967.	2.5	23
59	Effect of Luminescent Coupling on the Optimal Design of Multijunction Solar Cells. IEEE Journal of Photovoltaics, 2014, 4, 986-990.	2.5	56
60	Editorial: Toward 100 Gigawatts of Concentrator Photovoltaics by 2030. IEEE Journal of Photovoltaics, 2013, 3, 1460-1463.	2.5	23
61	Analysis of Multijunction Solar Cell Current-Voltage Characteristics in the Presence of Luminescent Coupling. IEEE Journal of Photovoltaics, 2013, 3, 1429-1436.	2.5	67
62	Effects of Internal Luminescence and Internal Optics on V_{oc} and J_{sc} of III-V Solar Cells. IEEE Journal of Photovoltaics, 2013, 3, 1437-1442.	2.5	77
63	Pushing Inverted Metamorphic Multijunction Solar Cells Toward Higher Efficiency at Realistic Operating Conditions. IEEE Journal of Photovoltaics, 2013, 3, 893-898.	2.5	31
64	Measuring IV Curves and Subcell Photocurrents in the Presence of Luminescent Coupling. IEEE Journal of Photovoltaics, 2013, 3, 879-887.	2.5	85
65	Experimental and modeling analysis of internal luminescence in III-V solar cells. AIP Conference Proceedings, 2013, , .	0.4	5
66	Ordering-enhanced dislocation glide in III-V alloys. Journal of Applied Physics, 2013, 114, .	2.5	20
67	Increased Photovoltaic Power Output via Diffractive Spectrum Separation. Physical Review Letters, 2013, 110, 123901.	7.8	51
68	Design of ultra-broadband antireflection coatings utilizing integrated moth-eye structures for multi-junction device applications. , 2013, , .		1
69	Pushing inverted metamorphic multijunction solar cells toward higher efficiency at realistic operating conditions. , 2013, , .		0
70	Measuring IV curves and subcell photocurrents in the presence of luminescent coupling. , 2013, , .		1
71	Design of integrated III-nitride/non-III-nitride tandem photovoltaic devices. Journal of Applied Physics, 2012, 111, 054503.	2.5	25
72	Design of semiconductor-based back reflectors for high V_{oc} ; monolithic multijunction solar cells. , 2012, , .		12

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73	A novel solar simulator based on a super-continuum laser. , 2012, , .		6
74	Measuring IV curves and subcell photocurrents in the presence of luminescent coupling. , 2012, , .		4
75	Pushing inverted metamorphic multijunction solar cells toward higher efficiency at realistic operating conditions. , 2012, , .		7
76	Temperature-dependent measurements of an inverted metamorphic multijunction (IMM) solar cell. , 2011, , .		26
77	Cell-level thermal management issues in concentrator III–V multijunction solar cells. , 2010, , .		4
78	Dilute nitride GaInNAs and GaInNAsSb solar cells by molecular beam epitaxy. Journal of Applied Physics, 2007, 101, 114916.	2.5	192
79	GaInNAsSb Solar Cells Grown by Molecular Beam Epitaxy. , 2006, , .		1
80	Monolithic, Ultra-Thin GaInP/GaAs/GaInAs Tandem Solar Cells. , 2006, , .		11
81	Recent developments in terrestrial concentrator photovoltaics. AIP Conference Proceedings, 1997, , .	0.4	0
82	Concentrating and multijunction photovoltaics. , 0, , 257-271.		0