Elisa Antolin

List of Publications by Year
in descending order

94 papers	3,508 citations	172207 29 h-index	143772 57 g-index
96 all docs	96 docs citations	96 times ranked	1914 citing authors

#	Article	IF	Citations
1	Production of Photocurrent due to Intermediate-to-Conduction-Band Transitions: A Demonstration of a Key Operating Principle of the Intermediate-Band Solar Cell. Physical Review Letters, 2006, 97, 247701.	2.9	498
2	Intermediate bands versus levels in non-radiative recombination. Physica B: Condensed Matter, 2006, 382, 320-327.	1.3	278
3	Emitter degradation in quantum dot intermediate band solar cells. Applied Physics Letters, 2007, 90, 233510.	1.5	210
4	Experimental analysis of the quasi-Fermi level split in quantum dot intermediate-band solar cells. Applied Physics Letters, 2005, 87, 083505.	1.5	189
5	Novel semiconductor solar cell structures: The quantum dot intermediate band solar cell. Thin Solid Films, 2006, 511-512, 638-644.	0.8	170
6	Reducing carrier escape in the InAs/GaAs quantum dot intermediate band solar cell. Journal of Applied Physics, 2010, 108, .	1.1	156
7	Operation of the intermediate band solar cell under nonideal space charge region conditions and half filling of the intermediate band. Journal of Applied Physics, 2006, 99, 094503.	1.1	138
8	Lifetime recovery in ultrahighly titanium-doped silicon for the implementation of an intermediate band material. Applied Physics Letters, 2009, 94, .	1.5	119
9	Elements of the design and analysis of quantum-dot intermediate band solar cells. Thin Solid Films, 2008, 516, 6716-6722.	0.8	106
10	Review of Experimental Results Related to the Operation of Intermediate Band Solar Cells. IEEE Journal of Photovoltaics, 2014, 4, 736-748.	1.5	85
11	Voltage recovery in intermediate band solar cells. Solar Energy Materials and Solar Cells, 2012, 98, 240-244.	3.0	77
12	Intermediate Band Solar Cell with Extreme Broadband Spectrum Quantum Efficiency. Physical Review Letters, 2015, 114, 157701.	2.9	62
13	III-V compound semiconductor screening for implementing quantum dot intermediate band solar cells. Journal of Applied Physics, 2011, 109, 014313.	1.1	58
14	Self-organized colloidal quantum dots and metal nanoparticles for plasmon-enhanced intermediate-band solar cells. Nanotechnology, 2013, 24, 345402.	1.3	54
15	Wide-Bandgap InAs/InGaP Quantum-Dot Intermediate Band Solar Cells. IEEE Journal of Photovoltaics, 2015, 5, 840-845.	1.5	51
16	Gate tunable photovoltaic effect in MoS₂ vertical pâ€“n homostructures. Journal of Materials Chemistry C, 2017, 5, 854-861.	2.7	50
17	Intermediate band mobility in heavily titanium-doped silicon layers. Solar Energy Materials and Solar Cells, 2009, 93, 1668-1673.	3.0	49
18	Intraband absorption for normal illumination in quantum dot intermediate band solar cells. Solar Energy Materials and Solar Cells, 2010, 94, 2032-2035.	3.0	46

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19	Multiple levels in intermediate band solar cells. Applied Physics Letters, 2010, 96, .	1.5	46
20	New Hamiltonian for a better understanding of the quantum dot intermediate band solar cells. Solar Energy Materials and Solar Cells, 2011, 95, 2095-2101.	3.0	45
21	Understanding the operation of quantum dot intermediate band solar cells. Journal of Applied Physics, 2012, 111, 044502.	1.1	41
22	Highly responsive UV-photodetectors based on single electrospun TiO₂ nanofibres. Journal of Materials Chemistry C, 2016, 4, 10707-10714.	2.7	41
23	Two-layer Hall effect model for intermediate band Ti-implanted silicon. Journal of Applied Physics, 2011, 109, .	1.1	40
24	Potential of Mn doped In1âˆ’xGaxN for implementing intermediate band solar cells. Solar Energy Materials and Solar Cells, 2009, 93, 641-644.	3.0	39
25	Application of the photoreflectance technique to the characterization of quantum dot intermediate band materials for solar cells. Thin Solid Films, 2008, 516, 6943-6947.	0.8	38
26	Low temperature characterization of the photocurrent produced by two-photon transitions in a quantum dot intermediate band solar cell. Thin Solid Films, 2008, 516, 6919-6923.	0.8	36
27	Photovoltaic Anodes for Enhanced Thermionic Energy Conversion. ACS Energy Letters, 2020, 5, 1364-1370.	8.8	35
28	Analysis of the intermediate-band absorption properties of type-II GaSb/GaAs quantum-dot photovoltaics. Physical Review B, 2017, 96, .	1.1	32
29	High open-circuit voltage in transition metal dichalcogenide solar cells. Nano Energy, 2021, 79, 105427.	8.2	31
30	Advances in quantum dot intermediate band solar cells. , 2010, , .		29
31	Radiative thermal escape in intermediate band solar cells. AIP Advances, 2011, 1, .	0.6	29
32	AMADEUS: Next generation materials and solid state devices for ultra high temperature energy storage and conversion. AIP Conference Proceedings, 2018, , .	0.3	29
33	On inhibiting Auger intraband relaxation in InAs/GaAs quantum dot intermediate band solar cells. Applied Physics Letters, 2011, 99, .	1.5	28
34	Symmetry considerations in the empirical k.p Hamiltonian for the study of intermediate band solar cells. Solar Energy Materials and Solar Cells, 2012, 103, 171-183.	3.0	26
35	InAs/AlGaAs quantum dot intermediate band solar cells with enlarged sub-bandgaps. , 2012, , .		25
36	Demonstration of the operation principles of intermediate band solar cells at room temperature. Solar Energy Materials and Solar Cells, 2016, 149, 15-18.	3.0	25

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37	Understanding experimental characterization of intermediate band solar cells. Journal of Materials Chemistry, 2012, 22, 22832.	6.7	24
38	The Quantum Dot Intermediate Band Solar Cell. Springer Series in Optical Sciences, 2012, , 251-275.	0.5	24
39	Interband absorption of photons by extended states in intermediate band solar cells. Solar Energy Materials and Solar Cells, 2013, 115, 138-144.	3.0	24
40	Extreme voltage recovery in GaAs:Ti intermediate band solar cells. Solar Energy Materials and Solar Cells, 2013, 108, 175-179.	3.0	22
41	Three-Bandgap Absolute Quantum Efficiency in GaSb/GaAs Quantum Dot Intermediate Band Solar Cells. IEEE Journal of Photovoltaics, 2017, 7, 508-512.	1.5	21
42	Six not-so-easy pieces in intermediate band solar cell research. Journal of Photonics for Energy, 2013, 3, 031299.	0.8	20
43	<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si1.gif" display="inline" overflow="scroll"><mml:msub><mml:mrow><mml:mstyle		

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55	Module interconnection for the three-terminal heterojunction bipolar transistor solar cell. AIP Conference Proceedings, 2018, , .	0.3	11
56	Contribution to the Study of Sub-Bandgap Photon Absorption in Quantum Dot InAs/AlGaAs Intermediate Band Solar Cells. IEEE Journal of Photovoltaics, 2021, 11, 420-428.	1.5	11
57	Low-Temperature Concentrated Light Characterization Applied to Intermediate Band Solar Cells. IEEE Journal of Photovoltaics, 2013, 3, 753-761.	1.5	10
58	Six not so easy pieces in intermediate band solar cell research. , 2013, , .		9
59	Two-photon photocurrent and voltage up-conversion in a quantum dot intermediate band solar cell. , 2014, , .		9
60	Experimental demonstration of the effect of field damping layers in quantum-dot intermediate band solar cells. Solar Energy Materials and Solar Cells, 2015, 140, 299-305.	3.0	9
61	Triplet Excitation and Electroluminescence from a Supramolecular Monolayer Embedded in a Boron Nitride Tunnel Barrier. Nano Letters, 2020, 20, 278-283.	4.5	9
62	Fluorescence and Electroluminescence of J-Aggregated Polythiophene Monolayers on Hexagonal Boron Nitride. ACS Nano, 2020, 14, 13886-13893.	7.3	9
63	Intermediate Band to Conduction Band Optical Absorption in ZnTeO. IEEE Journal of Photovoltaics, 2014, 4, 1091-1094.	1.5	8
64	Optically Triggered Infrared Photodetector. Nano Letters, 2015, 15, 224-228.	4.5	8
65	On the Potential of Silicon Intermediate Band Solar Cells. Energies, 2020, 13, 3044.	1.6	8
66	Hot carrier solar cells: Challenges and recent progress. , 2010, , .		7
67	Interpretation of photovoltaic performance of n -ZnO:Al/ZnS:Cr/p-GaP solar cell. Solar Energy Materials and Solar Cells, 2017, 169, 56-60.	3.0	7
68	Demonstrating the GaInP/GaAs Three-Terminal Heterojunction Bipolar Transistor Solar Cell. , 2019, , .		7
69	Considerations for the Design of a Heterojunction Bipolar Transistor Solar Cell. IEEE Journal of Photovoltaics, 2020, 10, 2-7.	1.5	7
70	Light management issues in intermediate band solar cells. Materials Research Society Symposia Proceedings, 2008, 1101, 1.	0.1	6
71	Application of photoluminescence and electroluminescence techniques to the characterization of intermediate band solar cells. Energy Procedia, 2011, 10, 117-121.	1.8	6
72	The lead salt quantum dot intermediate band solar cell. , 2011, , .		6

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73	Progress in threeâ€terminal heterojunction bipolar transistor solar cells. Progress in Photovoltaics: Research and Applications, 2022, 30, 843-850.	4.4	6
74	IBPOWER: Intermediate band materials and solar cells for photovoltaics with high efficiency and reduced cost. , 2009, , .		5
75	III-V-on-silicon triple-junction based on the heterojunction bipolar transistor solar cell concept. , 2020, , .		4
76	Inverted GaInP/GaAs Three-Terminal Heterojunction Bipolar Transistor Solar Cell. , 2020, , .		4
77	Strain balanced quantum posts for intermediate band solar cells. , 2010, , .		2
78	Intermediate band solar energy conversion in ZnTeO. , 2013, , .		2
79	A puzzling solar cell structure: An exercise to get insight on intermediate band solar cells. , 2013, , .		2
80	Potential of the three-terminal heterojunction bipolar transistor solar cell for space applications. , 2019, , .		2
81	Optical properties of quantum dot intermediate band solar cells. , 2011, , .		2
82	Modelling of quantum dot solar cells for concentrator PV applications. , 2011, , .		1
83	Intermediate Band Solar Cells. Advances in Chemical and Materials Engineering Book Series, 0, , 188-213.	0.2	1
84	A substrate removal processing method for IIIâ€"V solar cells compatible with low-temperature characterization. Materials Science in Semiconductor Processing, 2017, 63, 58-63.	1.9	1
85	Design study of a nanowire three-terminal heterojunction bipolar transistor solar cell. , 2021, , .		1
86	Compensated contacts for three-terminal transistor solar cells. , 2021, , .		1
87	Intermediate Band Solar Cells. , 2012, , 619-639.		0
88	Intermediate band to conduction band optical absorption in ZnTe:O. , 2012, , .		0
89	Intermediate band to conduction band optical absorption in ZnTe:O. , 2013, , .		0
90	Notice of Removal Limiting efficiency of silicon intermediate band solar cells. , 2017, , .		0

#	Article	IF	Citations
91	Citizens on the driving seat of Photovoltaics. , 2019, , .		0
92	Enabling high efficiencies in MoS2 homojunction solar cells. , 2021, , .		0
93	High open-circuit voltage Mos2 homojunction - effect of Schottky barriers at the contacts. , 2020, , .		0
94	The Intermediate Band Solar Cell. , 2021, , .		0