

Adele C Tamboli

List of Publications by Year in descending order

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80
papers

2,560
citations

236925

25
h-index

197818

49
g-index

85
all docs

85
docs citations

85
times ranked

2336
citing authors

#	ARTICLE	IF	CITATIONS
1	Raising the one-sun conversion efficiency of III-V/Si solar cells to 32.8% for two junctions and 35.9% for three junctions. <i>Nature Energy</i> , 2017, 2, .	39.5	424
2	The 2020 photovoltaic technologies roadmap. <i>Journal Physics D: Applied Physics</i> , 2020, 53, 493001.	2.8	274
3	Synthesis, structure, and optoelectronic properties of II-V ₂ materials. <i>Journal of Materials Chemistry A</i> , 2017, 5, 11418-11435.	10.3	145
4	High-Efficiency Silicon Heterojunction Solar Cells: Materials, Devices and Applications. <i>Materials Science and Engineering Reports</i> , 2020, 142, 100579.	31.8	139
5	Combinatorial insights into doping control and transport properties of zinc tin nitride. <i>Journal of Materials Chemistry C</i> , 2015, 3, 11017-11028.	5.5	128
6	Monte Carlo simulations of disorder in ZnSnN ₂ and the effects on the electronic structure. <i>Physical Review Materials</i> , 2017, 1, .	2.4	79
7	Maximizing tandem solar cell power extraction using a three-terminal design. <i>Sustainable Energy and Fuels</i> , 2018, 2, 1141-1147.	4.9	67
8	Synthesis of Group IV Clathrates for Photovoltaics. <i>IEEE Journal of Photovoltaics</i> , 2013, 3, 1305-1310.	2.5	62
9	Effects of Hydrogen on Acceptor Activation in Ternary Nitride Semiconductors. <i>Advanced Electronic Materials</i> , 2017, 3, 1600544.	5.1	56
10	Synthesis and optical band gaps of alloyed Si-Ge type II clathrates. <i>Journal of Materials Chemistry C</i> , 2014, 2, 3231-3237.	5.5	55
11	Ternary nitride semiconductors in the rocksalt crystal structure. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019, 116, 14829-14834.	7.1	52
12	A Taxonomy for Three-Terminal Tandem Solar Cells. <i>ACS Energy Letters</i> , 2020, 5, 1233-1242.	17.4	51
13	Solar energy conversion properties and defect physics of ZnSiP ₂ . <i>Energy and Environmental Science</i> , 2016, 9, 1031-1041.	30.8	49
14	Three-terminal III-V/Si tandem solar cells enabled by a transparent conductive adhesive. <i>Sustainable Energy and Fuels</i> , 2020, 4, 549-558.	4.9	46
15	Utilizing Site Disorder in the Development of New Energy-Relevant Semiconductors. <i>ACS Energy Letters</i> , 2020, 5, 2027-2041.	17.4	46
16	Combinatorial Synthesis of Magnesium Tin Nitride Semiconductors. <i>Journal of the American Chemical Society</i> , 2020, 142, 8421-8430.	18.7	42
17	Exciton photoluminescence and benign defect complex formation in zinc tin nitride. <i>Materials Horizons</i> , 2018, 5, 823-830.	12.2	41
18	Efficient route to phase selective synthesis of type II silicon clathrates with low sodium occupancy. <i>CrystEngComm</i> , 2014, 16, 3940-3949.	2.6	39

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19	Interplay between Composition, Electronic Structure, Disorder, and Doping due to Dual Sublattice Mixing in Nonequilibrium Synthesis of ZnSnN ₂ O. <i>Advanced Materials</i> , 2019, 31, e1807406.	21.0	35
20	Ternary Nitride Materials: Fundamentals and Emerging Device Applications. <i>Annual Review of Materials Research</i> , 2021, 51, 591-618.	9.3	34
21	Zn ₂ SbN ₃ : growth and characterization of a metastable photoactive semiconductor. <i>Materials Horizons</i> , 2019, 6, 1669-1674.	12.2	32
22	Equivalent Performance in Three-Terminal and Four-Terminal Tandem Solar Cells. <i>IEEE Journal of Photovoltaics</i> , 2018, 8, 1584-1589.	2.5	31
23	Back-contacted bottom cells with three terminals: Maximizing power extraction from current-mismatched tandem cells. <i>Progress in Photovoltaics: Research and Applications</i> , 2019, 27, 410-423.	8.1	31
24	Understanding and control of bipolar self-doping in copper nitride. <i>Journal of Applied Physics</i> , 2016, 119, .	2.5	30
25	Combinatorial investigation of structural and optical properties of cation-disordered ZnGeN ₂ . <i>Journal of Materials Chemistry C</i> , 2020, 8, 8736-8746.	5.5	28
26	Low-Cost CdTe/Silicon Tandem Solar Cells. <i>IEEE Journal of Photovoltaics</i> , 2017, 7, 1767-1772.	2.5	26
27	String-Level Modeling of Two, Three, and Four Terminal Si-Based Tandem Modules. <i>IEEE Journal of Photovoltaics</i> , 2018, 8, 1370-1375.	2.5	26
28	Energy Yield Analysis of Multiterminal Si-Based Tandem Solar Cells. <i>IEEE Journal of Photovoltaics</i> , 2018, 8, 1376-1383.	2.5	26
29	Transparent Conductive Adhesives for Tandem Solar Cells Using Polymer-Particle Composites. <i>ACS Applied Materials & Interfaces</i> , 2018, 10, 8086-8091.	8.0	25
30	Band Edge Positions and Their Impact on the Simulated Device Performance of ZnSnN ₂ -Based Solar Cells. <i>IEEE Journal of Photovoltaics</i> , 2018, 8, 110-117.	2.5	25
31	Heteroepitaxial Integration of ZnGeN ₂ on GaN Buffers Using Molecular Beam Epitaxy. <i>Crystal Growth and Design</i> , 2020, 20, 1868-1875.	3.0	24
32	GaAs Solar Cells on Nanopatterned Si Substrates. <i>IEEE Journal of Photovoltaics</i> , 2018, 8, 1635-1640.	2.5	23
33	Blue-green emission from epitaxial yet cation-disordered $ZnGeN_2O$. <i>Physical Review Materials</i> , 2019, 3, .	2.4	23
34	Probing configurational disorder in $ZnGeN_2$ using cluster-based Monte Carlo. <i>Physical Review Materials</i> , 2021, 5, .	2.4	12
35	Perfect short-range ordered alloy with line-compound-like properties in the ZnSnN ₂ :ZnO system. <i>Npj Computational Materials</i> , 2020, 6, .	8.7	20
36	Development of ZnSiP ₂ for Si-Based Tandem Solar Cells. <i>IEEE Journal of Photovoltaics</i> , 2015, 5, 17-21.	2.5	19

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37	Growth of amorphous and epitaxial ZnSiP ₂ alloys on Si. Journal of Materials Chemistry C, 2018, 6, 2696-2703.	5.5	18
38	Perspective: Fundamentals of coalescence-related dislocations, applied to selective-area growth and other epitaxial films. APL Materials, 2018, 6, .	5.1	18
39	Toward Low-Cost 4-Terminal GaAs/Si Tandem Solar Cells. ACS Applied Energy Materials, 2019, 2, 2375-2380.	5.1	17
40	Wafer-Scale Growth of Silicon Microwire Arrays for Photovoltaics and Solar Fuel Generation. IEEE Journal of Photovoltaics, 2012, 2, 294-297.	2.5	15
41	III-V-on-Si Tandem Solar Cells. Joule, 2021, 5, 514-518.	24.0	15
42	Using resonant energy X-ray diffraction to extract chemical order parameters in ternary semiconductors. Journal of Materials Chemistry C, 2020, 8, 4350-4356.	5.5	13
43	Optimization of four terminal rear heterojunction GaAs on Si interdigitated back contact tandem solar cells. Applied Physics Letters, 2021, 118, .	3.3	13
44	Bandgap analysis and carrier localization in cation-disordered ZnGeN ₂ . APL Materials, 2022, 10, .	5.1	13
45	Homogenous Voltage-Matched Strings Using Three-Terminal Tandem Solar Cells: Fundamentals and End Losses. IEEE Journal of Photovoltaics, 2021, 11, 1078-1086.	2.5	12
46	Indium zinc oxide mediated wafer bonding for III-V/Si tandem solar cells. , 2015, , .		8
47	Large Area Atomically Flat Surfaces via Exfoliation of Bulk Bi ₂ Se ₃ Single Crystals. Chemistry of Materials, 2017, 29, 8472-8477.	6.7	8
48	Nitride layer screening as carrier-selective contacts for silicon heterojunction solar cells. AIP Conference Proceedings, 2018, , .	0.4	8
49	Reactive phosphine combinatorial co-sputtering of cation disordered ZnGeP ₂ films. Journal of Materials Chemistry C, 2022, 10, 870-879.	5.5	8
50	Boron Phosphide Films by Reactive Sputtering: Searching for a p-type Transparent Conductor. Advanced Materials Interfaces, 2022, 9, .	3.7	8
51	Characterization of multiterminal tandem photovoltaic devices and their subcell coupling. Cell Reports Physical Science, 2021, 2, 100677.	5.6	8
52	Demonstrating the GaInP/GaAs Three-Terminal Heterojunction Bipolar Transistor Solar Cell. , 2019, , .		7
53	Exploring the phase space of Zn ₂ Sb ₃ , a novel semiconducting nitride. Journal of Materials Chemistry C, 2021, 9, 13904-13913.	5.5	7
54	Selective area growth of GaAs on Si patterned using nanoimprint lithography. , 2016, , .		6

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55	Enabling low-cost III-V/Si integration through nucleation of GaP on v-grooved Si substrates. , 2018, , .		6
56	Lamination of transparent conductive adhesives for tandem solar cell applications. Journal Physics D: Applied Physics, 2021, 54, 184002.	2.8	6
57	Design principles of tandem cascade photoelectrochemical devices. Sustainable Energy and Fuels, 2021, 5, 6361-6371.	4.9	6
58	Progress in three-terminal heterojunction bipolar transistor solar cells. Progress in Photovoltaics: Research and Applications, 2022, 30, 843-850.	8.1	6
59	Short-Range Order Tunes Optical Properties in Long-Range Disordered ZnSnN ₂ "ZnO Alloy. Chemistry of Materials, 2022, 34, 3910-3919.	6.7	6
60	Single crystal growth and phase stability of photovoltaic grade ZnSiP ₂ by flux technique. , 2015, , .		5
61	Transparent Conductive Adhesives for Tandem Solar Cells. , 2017, , .		5
62	Disorder-tunable ZnGeP ₂ for epitaxial top cells on Si. , 2019, , .		5
63	Effects of low temperature annealing on the transport properties of zinc tin nitride. , 2015, , .		4
64	Operating principles of three-terminal solar cells. , 2018, , .		4
65	Fabrication, Measurement, and Modeling of GaInP/GaAs Three-Terminal Cells and Strings. , 2021, , .		4
66	Inverted GaInP/GaAs Three-Terminal Heterojunction Bipolar Transistor Solar Cell. , 2020, , .		4
67	Heteroepitaxial ZnGeN ₂ on AlN: Growth, Structure, and Optical Properties. Crystal Growth and Design, 2022, 22, 1270-1275.	3.0	4
68	Enabling ultrathin III-V solar cells using dual photonic crystals. , 2019, , .		3
69	Energy conversion properties of ZnSiP ₂ , a lattice-matched material for silicon-based tandem photovoltaics. , 2016, , .		2
70	Yield analysis and comparison of GaInP/Si and GaInP/GaAs multi-terminal tandem solar cells. AIP Conference Proceedings, 2018, , .	0.4	2
71	III-V/Si Tandem Cells Utilizing Interdigitated Back Contact Si Cells and Varying Terminal Configurations. , 2019, , .		2
72	Composition dependent electrochemical properties of earth-abundant ternary nitride anodes. APL Materials, 2022, 10, 041109.	5.1	2

#	ARTICLE	IF	CITATIONS
73	III-V/Si tandem cell to module interconnection - comparison between different operation modes. , 2017, , .		1
74	Modeling three-terminal III- V ISi tandem solar cells. , 2017, , .		1
75	Computational Materials Design: Interplay between Composition, Electronic Structure, Disorder, and Doping due to Dual Sublattice Mixing in Nonequilibrium Synthesis of ZnSn ₂ O (Adv.) Tj ETQq1 1 0.784314 rgBT /Overlaid		
76	A simple physical model for three-terminal tandem cell operation. , 2019, , .		1
77	Compensated contacts for three-terminal transistor solar cells. , 2021, , .		1
78	Deep level transient spectroscopy and photoluminescence studies of hole and electron traps in ZnSnP ₂ bulk crystals. Japanese Journal of Applied Physics, 2022, 61, 020905.	1.5	1
79	Simulation and characterization of cation disorder in ZnGeP_2 . Journal of Materials Research, 2022, 37, 1986-1996.	2.6	1
80	Investigation of Off-stoichiometry in Ternary Nitrides by EDS and HRTEM. Microscopy and Microanalysis, 2020, 26, 1406-1407.	0.4	0