Andriy Zakutayev

List of Publications by Year
in descending order

190 papers	8,074 citations	41344 49 h-index	60623 81 g-index
199 all docs	199 docs citations	199 times ranked	8721 citing authors

#	Article	IF	Citations
1	Band-structure, optical properties, and defect physics of the photovoltaic semiconductor SnS. Applied Physics Letters, 2012, 100, .	3.3	382
2	Defect Tolerant Semiconductors for Solar Energy Conversion. Journal of Physical Chemistry Letters, 2014, 5, 1117-1125.	4.6	304
3	A map of the inorganic ternary metal nitrides. Nature Materials, 2019, 18, 732-739.	27.5	274
4	Wide Band Gap Chalcogenide Semiconductors. Chemical Reviews, 2020, 120, 4007-4055.	47.7	246
5	A review of Sb2Se3 photovoltaic absorber materials and thin-film solar cells. Solar Energy, 2020, 201, 227-246.	6.1	243
6	The 2019 materials by design roadmap. Journal Physics D: Applied Physics, 2019, 52, 013001.	2.8	236
7	Doping Rules and Doping Prototypes in A₂BO₄ Spinel Oxides. Advanced Functional Materials, 2011, 21, 4493-4501.	14.9	176
8	Triple ionicâ€“electronic conducting oxides for next-generation electrochemical devices. Nature Materials, 2021, 20, 301-313.	27.5	160
9	Origin of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>p</mml:mi></mml:math>-type conduction in single-crystal<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mtext>CuAlO</mml:mtext></mml:mrow><mml:mn>2</mml:mn></mml:msub></mml:mrow></mml:math> Physical Review B, 2009, 80, .	3.2	158
10	Design of nitride semiconductors for solar energy conversion. Journal of Materials Chemistry A, 2016, 4, 6742-6754.	10.3	145
11	Control of Doping in Cu₂SnS₃ through Defects and Alloying. Chemistry of Materials, 2014, 26, 4951-4959.	6.7	136
12	Combinatorial insights into doping control and transport properties of zinc tin nitride. Journal of Materials Chemistry C, 2015, 3, 11017-11028.	5.5	128
13	Thermodynamic Routes to Novel Metastable Nitrogen-Rich Nitrides. Chemistry of Materials, 2017, 29, 6936-6946.	6.7	121
14	An open experimental database for exploring inorganic materials. Scientific Data, 2018, 5, 180053.	5.3	121
15	Self-regulated growth and tunable properties of CuSbS2 solar absorbers. Solar Energy Materials and Solar Cells, 2015, 132, 499-506.	6.2	119
16	Evaluation of photovoltaic materials within the Cu-Sn-S family. Applied Physics Letters, 2013, 103, .	3.3	117
17	Thin film synthesis and properties of copper nitride, a metastable semiconductor. Materials Horizons, 2014, 1, 424-430.	12.2	116
18	Perovskite-Inspired Photovoltaic Materials: Toward Best Practices in Materials Characterization and Calculations. Chemistry of Materials, 2017, 29, 1964-1988.	6.7	116

#	Article	IF	Citations
19	Surface Origin of High Conductivities in Undoped<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi>In</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:msub><mml:mi mathvariant="normal">O</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:math>Thin Films. Physical Review Letters, 2012, 108, 016802.	7.8	111
20	Theoretical Prediction and Experimental Realization of New Stable Inorganic Materials Using the Inverse Design Approach. Journal of the American Chemical Society, 2013, 135, 10048-10054.	13.7	111
21	Control of the Electrical Properties in Spinel Oxides by Manipulating the Cation Disorder. Advanced Functional Materials, 2014, 24, 610-618.	14.9	109
22	Sorting Stable versus Unstable Hypothetical Compounds: The Case of Multiâ€Functional ABX Halfâ€Heusler Filled Tetrahedral Structures. Advanced Functional Materials, 2012, 22, 1425-1435.	14.9	107
23	How Much Will Gallium Oxide Power Electronics Cost?. Joule, 2019, 3, 903-907.	24.0	96
24	Roadmap on optical energy conversion. Journal of Optics (United Kingdom), 2016, 18, 073004.	2.2	85
25	Inverse design approach to hole doping in ternary oxides: Enhancing<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>p</mml:mi></mml:math>-type conductivity in cobalt oxide spinels. Physical Review B, 2011, 84, .	3.2	81
26	CuSbSe₂photovoltaic devices with 3% efficiency. Applied Physics Express, 2015, 8, 082301.	2.4	81
27	Monte Carlo simulations of disorder in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>ZnSn</mml:mi><mml:msub><mml:mi mathvariant="normal">N</mml:mi><mml:mn>2</mml:mn></mml:msub></mml:mrow></mml:math> and the effects on the electronic structure. Physical Review Materials, 2017, 1, .	2.4	79
28	A review of defects and disorder in multinary tetrahedrally bonded semiconductors. Semiconductor Science and Technology, 2016, 31, 123004.	2.0	74
29	Accelerated development of CuSbS₂ thin film photovoltaic device prototypes. Progress in Photovoltaics: Research and Applications, 2016, 24, 929-939.	8.1	74
30	Cation off-stoichiometry leads to high<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>p</mml:mi></mml:math>-type conductivity and enhanced transparency in Co<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>2</mml:mn></mml:msub></mml:math>ZnO<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow />	3.2	73
31	Effects of Disorder on Carrier Transport in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mrow><mml:msub><mml:mrow><mml:mi>Cu</mml:mi></mml:mrow><mml:mrow><mml:mn>2</mml:mn>	3.8	73
32	Combinatorial Reactive Sputtering of In₂S₃ as an Alternative Contact Layer for Thin Film Solar Cells. ACS Applied Materials & Interfaces, 2016, 8, 14004-14011.	8.0	67
33	Effects of Thermochemical Treatment on CuSbS₂ Photovoltaic Absorber Quality and Solar Cell Reproducibility. Journal of Physical Chemistry C, 2016, 120, 18377-18385.	3.1	67
34	Core Levels, Band Alignments, and Valence-Band States in CuSbS₂ for Solar Cell Applications. ACS Applied Materials & Interfaces, 2017, 9, 41916-41926.	8.0	67
35	Brief review of emerging photovoltaic absorbers. Current Opinion in Green and Sustainable Chemistry, 2017, 4, 8-15.	5.9	64
36	Entropy-Driven Clustering in Tetrahedrally Bonded Multinary Materials. Physical Review Applied, 2015, 3, .	3.8	61

#	Article	IF	Citations
37	A High-temperature, High-efficiency Solar Thermoelectric Generator Prototype. Energy Procedia, 2014, 49, 1460-1469.	1.8	60
38	Tradeâ€Offs in Thin Film Solar Cells with Layered Chalcostibite Photovoltaic Absorbers. Advanced Energy Materials, 2017, 7, 1601935.	19.5	58
39	Liâ€Doped Cr₂MnO₄: A New pâ€Type Transparent Conducting Oxide by Computational Materials Design. Advanced Functional Materials, 2013, 23, 5267-5276.	14.9	57
40	Enhanced Piezoelectric Response of AlN via CrN Alloying. Physical Review Applied, 2018, 9, .	3.8	57
41	Effects of Hydrogen on Acceptor Activation in Ternary Nitride Semiconductors. Advanced Electronic Materials, 2017, 3, 1600544.	5.1	56
42	Non-equilibrium deposition of phase pure Cu2O thin films at reduced growth temperature. APL Materials, 2014, 2, .	5.1	55
43	Experimental Synthesis and Properties of Metastable CuNbN₂ and Theoretical Extension to Other Ternary Copper Nitrides. Chemistry of Materials, 2014, 26, 4970-4977.	6.7	55
44	Low-temperature, solution processing of TiO2 thin films and fabrication of multilayer dielectric optical elements. Solid State Sciences, 2009, 11, 1692-1699.	3.2	54
45	Emerging inorganic solar cell efficiency tables (Version 1). JPhys Energy, 2019, 1, 032001.	5.3	54
46	Redox-Mediated Stabilization in Zinc Molybdenum Nitrides. Journal of the American Chemical Society, 2018, 140, 4293-4301.	13.7	53
47	Ternary nitride semiconductors in the rocksalt crystal structure. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 14829-14834.	7.1	52
48	COMBIgor: Data-Analysis Package for Combinatorial Materials Science. ACS Combinatorial Science, 2019, 21, 537-547.	3.8	52
49	Non-equilibrium origin of high electrical conductivity in gallium zinc oxide thin films. Applied Physics Letters, 2013, 103, .	3.3	51
50	Enhanced Electron Mobility Due to Dopantâ€Defect Pairing in Conductive ZnMgO. Advanced Functional Materials, 2014, 24, 2875-2882.	14.9	49
51	Semiconducting properties of spinel tin nitride and other IV₃N₄ polymorphs. Journal of Materials Chemistry C, 2015, 3, 1389-1396.	5.5	49
52	Implications of heterostructural alloying for enhanced piezoelectric performance of (Al,Sc)N. Physical Review Materials, 2018, 2, .	2.4	47
53	Novel phase diagram behavior and materials design in heterostructural semiconductor alloys. Science Advances, 2017, 3, e1700270.	10.3	46
54	Thin Film Synthesis of Semiconductors in the Mgâ€“Sbâ€“N Materials System. Chemistry of Materials, 2019, 31, 8717-8724.	6.7	46

#	Article	IF	Citations
55	Investigation of carrier recombination of Na-doped Cu2SnS3 solar cell for its improved conversion efficiency of 5.1%. Solar Energy Materials and Solar Cells, 2020, 206, 110261.	6.2	46
56	Synthesis, structure, and optical properties of BiCuOCh (Ch=S, Se, and Te). Journal of Solid State Chemistry, 2012, 187, 15-19.	2.9	44
57	Synthesis of LaWN ₃ nitride perovskite with polar symmetry. Science, 2021, 374, 1488-1491.	12.6	43
58	Strong optical absorption in CuTaN2 nitride delafossite. Energy and Environmental Science, 2013, 6, 2994.	30.8	42
59	Combinatorial Synthesis of Magnesium Tin Nitride Semiconductors. Journal of the American Chemical Society, 2020, 142, 8421-8430.	13.7	42
60	Exciton photoluminescence and benign defect complex formation in zinc tin nitride. Materials Horizons, 2018, 5, 823-830.	12.2	41
61	Sputtered nickel oxide thin film for efficient hole transport layer in polymerâ€“fullerene bulk-heterojunction organic solar cell. Thin Solid Films, 2012, 520, 3813-3818.	1.8	40
62	Emerging inorganic solar cell efficiency tables (version 2). JPhys Energy, 2021, 3, 032003.	5.3	40
63	The origin of electrical property deterioration with increasing Mg concentration in ZnMgO:Ga. Thin Solid Films, 2012, 520, 3697-3702.	1.8	38
64	Thin film preparation and characterization of wide band gap Cu3TaQ4 (Q = S or Se) p-type semiconductors. Thin Solid Films, 2009, 517, 2473-2476.	1.8	35
65	Atypically small temperature-dependence of the direct band gap in the metastable semiconductor copper nitride<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>Cu</mml:mi><mml:mn>3</mml:mn></mml:mrow><mathvariant="normal">N</mml:mi></mml:mrow></mml:math>. Physical Review B, 2017, 95, .	3.2	35
66	Interplay between Composition, Electronic Structure, Disorder, and Doping due to Dual Sublattice Mixing in Nonequilibrium Synthesis of ZnSnN₂:O. Advanced Materials, 2019, 31, e1807406.	21.0	35
67	Reduced coercive field in epitaxial thin film of ferroelectric wurtzite Al0.7Sc0.3N. Applied Physics Letters, 2021, 118, .	3.3	35
68	Development and application of an instrument for spatially resolved Seebeck coefficient measurements. Review of Scientific Instruments, 2013, 84, 053905.	1.3	34
69	Design of Semiconducting Tetrahedral<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi>Mn</mml:mi></mml:mrow><mml:mrow><mml:mn>1</mml:mn><mathvariant="normal">O</mml:mi></mml:mrow></mml:math>Alloys and Their Application to Solar Water Splitting. Physical Review X, 2015, 5, .	8.9	34
70	Combinatorial sputtering of Ga-doped (Zn,Mg)O for contact applications in solar cells. Solar Energy Materials and Solar Cells, 2017, 159, 219-226.	6.2	34
71	Negative-pressure polymorphs made by heterostructural alloying. Science Advances, 2018, 4, eaaq1442.	10.3	34
72	A Review on Lithium Phosphorus Oxynitride. Journal of Physical Chemistry C, 2021, 125, 3651-3667.	3.1	34

#	Article	IF	Citations
73	Characterization of defects in copper antimony disulfide. Journal of Materials Chemistry A, 2017, 5, 21986-21993.	10.3	33
74	Zn₂SbN₃: growth and characterization of a metastable photoactive semiconductor. Materials Horizons, 2019, 6, 1669-1674.	12.2	32
75	Research Update: Emerging chalcostibite absorbers for thin-film solar cells. APL Materials, 2018, 6, .	5.1	31
76	Review of ZnSnN₂ semiconductor material. JPhys Energy, 2020, 2, 032007.	5.3	31
77	Understanding and control of bipolar self-doping in copper nitride. Journal of Applied Physics, 2016, 119, .	2.5	30
78	Experimental Synthesis of Theoretically Predicted Multivalent Ternary Nitride Materials. Chemistry of Materials, 2022, 34, 1418-1438.	6.7	30
79	Structural, Optical, and Transport Properties of Î±- and Î²-Ag₃VO₄. Chemistry of Materials, 2012, 24, 3346-3354.	6.7	29
80	Synthesis of a mixed-valent tin nitride and considerations of its possible crystal structures. Journal of Chemical Physics, 2016, 144, 144201.	3.0	29
81	Chemistry of Electrolyte Reduction on Lithium Silicide. Journal of Physical Chemistry C, 2019, 123, 13219-13224.	3.1	29
82	SnS Homojunction Solar Cell with nâ€Type Single Crystal and pâ€Type Thin Film. Solar Rrl, 2021, 5, 2000708.	5.8	29
83	Pathway to oxide photovoltaics via band-structure engineering of SnO. APL Materials, 2016, 4, 106103.	5.1	28
84	Combinatorial In Situ Photoelectron Spectroscopy Investigation of Sb₂Se₃/ZnS Heterointerfaces. Advanced Materials Interfaces, 2016, 3, 1600755.	3.7	28
85	Optoelectronic Properties of Strontium and Barium Copper Sulfides Prepared by Combinatorial Sputtering. Chemistry of Materials, 2017, 29, 8239-8248.	6.7	28
86	Design of Metastable Tin Titanium Nitride Semiconductor Alloys. Chemistry of Materials, 2017, 29, 6511-6517.	6.7	27
87	Non-equilibrium alloying controls optoelectronic properties in Cu2O thin films for photovoltaic absorber applications. Applied Physics Letters, 2015, 106, 123903.	3.3	26
88	A computational survey of semiconductors for power electronics. Energy and Environmental Science, 2019, 12, 3338-3347.	30.8	26
89	Combinatorial Tuning of Structural and Optoelectronic Properties in Cu Zn1â^'S. Matter, 2019, 1, 862-880.	10.0	26
90	Band Edge Positions and Their Impact on the Simulated Device Performance of ZnSnN2-Based Solar Cells. IEEE Journal of Photovoltaics, 2018, 8, 110-117.	2.5	25

#	Article	IF	Citations
91	Characteristics of Zn1â^'xMgxO:B and its application as transparent conductive oxide layer in Cu(In,Ga)(S,Se)2 solar cells with and without CdS buffer layer. Solar Energy, 2019, 184, 553-560.	6.1	24
92	High-Temperature Ferroelectric Behavior of Al0.7Sc0.3N. Micromachines, 2022, 13, 887.	2.9	24
93	Defect physics of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mtext>BaCu</mml:mtext><mml:mi>C</mml:mi><mml:mi>h</mml:mi><mml:mtext>F</mml:mtext>	3.2	23
94	display="inline"><mml:mi>p</mml:mi></mml:math>-type. Physical Review B, 2010, 82, . Pulsed laser deposition of BiCuOSe thin films. Applied Physics A: Materials Science and Processing, 2011, 102, 485-492.	2.3	23
95	Combinatorial Chemical Bath Deposition of CdS Contacts for Chalcogenide Photovoltaics. ACS Combinatorial Science, 2016, 18, 583-589.	3.8	23
96	Probing the Evolution of Surface Chemistry at the Siliconâ€“Electrolyte Interphase via In Situ Surface-Enhanced Raman Spectroscopy. Journal of Physical Chemistry Letters, 2020, 11, 286-291.	4.6	23
97	Characterization of Elastic Modulus Across the (Al_{1â€“<italic>x</italic>}Sc_{<italic>x</italic>})N System Using DFT and Substrate-Effect-Corrected Nanoindentation. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2018, 65, 2167-2175.	3.0	22
98	Composition, structure, and semiconducting properties of Mg _x Zr_{2â^'x}N₂ thin films. Japanese Journal of Applied Physics, 2019, 58, SC1015.	1.5	22
99	Tunable properties of wide-band gap p-type BaCu(Ch1â^'xChxâ€²)F (Ch = S, Se, Te) thin-film solid solutions. Thin Solid Films, 2010, 518, 5494-5500.	1.8	21
100	Electronic structure and excitonic absorption in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mtext>BaCu</mml:mtext><mml:mi>C</mml:mi><mml:mi>h</mml:mi><mml:mtext>F</mml:mtext>	3.2	21
101	Mechanical Properties and Chemical Reactivity of Li_xSiO_y Thin Films. ACS Applied Materials & Interfaces, 2018, 10, 38558-38564.	8.0	21
102	Stabilization of wide band-gap p-type wurtzite MnTe thin films on amorphous substrates. Journal of Materials Chemistry C, 2018, 6, 6297-6304.	5.5	21
103	Modeling and Analysis of Gallium Oxide Vertical Transistors. ECS Journal of Solid State Science and Technology, 2019, 8, Q3202-Q3205.	1.8	21
104	Intrinsic Properties of Individual Inorganic Siliconâ€“Electrolyte Interphase Constituents. ACS Applied Materials & Interfaces, 2019, 11, 46993-47002.	8.0	21
105	Bi-Containing n-FeWO4 Thin Films Provide the Largest Photovoltage and Highest Stability for a Sub-2 eV Band Gap Photoanode. ACS Energy Letters, 2018, 3, 2769-2774.	17.4	20
106	Perfect short-range ordered alloy with line-compound-like properties in the ZnSnN2:ZnO system. Npj Computational Materials, 2020, 6, .	8.7	20
107	Understanding Reproducibility of Sputteraâ€Deposited Metastable Ferroelectric Wurtzite Al_{0.6}Sc_{0.4}N Films Using In Situ Optical Emission Spectrometry. Physica Status Solidi - Rapid Research Letters, 2021, 15, 2100043.	2.4	20
108	Using heterostructural alloying to tune the structure and properties of the thermoelectric Sn_{1â^'x}Ca_xSe. Journal of Materials Chemistry A, 2017, 5, 16873-16882.	10.3	19

#	Article	IF	Citations
109	Application of Al-Doped (Zn, Mg)O on pure-sulfide Cu(In, Ga)S2 solar cells for enhancement of open-circuit voltage. Solar Energy Materials and Solar Cells, 2019, 202, 110157.	6.2	19
110	Performance and reliability of Î²-Ga2O3 Schottky barrier diodes at high temperature. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2021, 39, .	2.1	19
111	Research data infrastructure for high-throughput experimental materials science. Patterns, 2021, 2, 100373.	5.9	19
112	Composition Dependence of the Band Gap and Doping in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi>Cu</mml:mi></mml:mrow><mml:mrow><mml:mn>2</mml:mn></mr mathvariant="normal">O</mml:mi></mml:mrow></mml:math>-Based Alloys as Predicted by an Extension of the Dilute-Defect Model. Physical Review Applied, 2014, 2, .	3.8	18
113	Back-contact barrier analysis to develop flexible and bifacial Cu(In,Ga)Se2 solar cells using transparent conductive In2O3: SnO2 thin films. Solar Energy, 2020, 211, 1311-1317.	6.1	18
114	Extended antisite defects in tetrahedrally bonded semiconductors. Physical Review B, 2015, 92, .	3.2	17
115	Non-equilibrium synthesis, structure, and opto-electronic properties of Cu2â^'2x Zn x O alloys. Journal of Materials Science, 2015, 50, 1350-1357.	3.7	17
116	Structure property relationships in gallium oxide thin films grown by pulsed laser deposition. MRS Communications, 2016, 6, 348-353.	1.8	17
117	Automated algorithms for band gap analysis from optical absorption spectra. Materials Discovery, 2017, 10, 43-52.	3.3	17
118	Superstrate-type flexible and bifacial Cu(In,Ga)Se2 thin-film solar cells with In2O3:SnO2 back contact. Solar Energy, 2020, 211, 725-731.	6.1	17
119	Projected Cost of Gallium Oxide Wafers from Edge-Defined Film-Fed Crystal Growth. Crystal Growth and Design, 2022, 22, 4854-4863.	3.0	17
120	Sensitized Zincâ€“Cobaltâ€“Oxide Spinel p-Type Photoelectrode. Journal of Physical Chemistry C, 2014, 118, 25340-25349.	3.1	16
121	Synthesis and Characterization of (Sn,Zn)O Alloys. Chemistry of Materials, 2016, 28, 7765-7772.	6.7	16
122	Metal chalcogenides for neuromorphic computing: emerging materials and mechanisms. Nanotechnology, 2021, 32, 372001.	2.6	16
123	Synthesis of Lanthanum Tungsten Oxynitride Perovskite Thin Films. Advanced Electronic Materials, 2019, 5, 1900214.	5.1	15
124	Solubility limits in quaternary SnTe-based alloys. RSC Advances, 2017, 7, 24747-24753.	3.6	14
125	Band gap temperature-dependence and exciton-like state in copper antimony sulphide, CuSbS2. APL Materials, 2018, 6, .	5.1	14
126	Review of high-throughput approaches to search for piezoelectric nitrides. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2019, 37, .	2.1	14

#	Article	IF	Citations
127	Computational Fermi level engineering and doping-type conversion of Mg:Ga2O3 via three-step synthesis process. Journal of Applied Physics, 2021, 129, .	2.5	14
128	Double-Site Substitution of Ce into (Ba, Sr)MnO₃ Perovskites for Solar Thermochemical Hydrogen Production. ACS Energy Letters, 2021, 6, 3037-3043.	17.4	14
129	Role of disorder in the synthesis of metastable zinc zirconium nitrides. Physical Review Materials, 2022, 6, .	2.4	14
130	Tuning the physical properties of amorphous In-Zn-Sn-O thin films using combinatorial sputtering. MRS Communications, 2016, 6, 360-366.	1.8	13
131	Combinatorial Nitrogen Gradients in Sputtered Thin Films. ACS Combinatorial Science, 2018, 20, 436-442.	3.8	13
132	Zinc-Stabilized Manganese Telluride with Wurtzite Crystal Structure. Journal of Physical Chemistry C, 2018, 122, 18769-18775.	3.1	13
133	Electron scattering mechanisms in polycrystalline sputtered zinc tin oxynitride thin films. Journal of Applied Physics, 2019, 126, 035701.	2.5	13
134	Electronic properties of BaCuChF (Ch=S,Se,Te) surfaces and BaCuSeF/ZnPc interfaces. Journal of Applied Physics, 2010, 107, .	2.5	12
135	Epitaxial growth of rock salt MgZrN2 semiconductors on MgO and GaN. Applied Physics Letters, 2020, 116, 102102.	3.3	12
136	Discovering exceptionally hard and wear-resistant metallic glasses by combining machine-learning with high throughput experimentation. Applied Physics Reviews, 2022, 9, .	11.3	12
137	Prediction and realisation of high mobility and degenerate p-type conductivity in CaCuP thin films. Chemical Science, 2022, 13, 5872-5883.	7.4	12
138	Wild band edges: The role of bandgap grading and band-edge fluctuations in high-efficiency chalcogenide devices. , 2016, , .		11
139	An Inter-Laboratory Study of Znâ€“Snâ€“Tiâ€“O Thin Films using High-Throughput Experimental Methods. ACS Combinatorial Science, 2019, 21, 350-361.	3.8	11
140	Sputtered p-Type Cu_xZn_{1â€“x}S Back Contact to CdTe Solar Cells. ACS Applied Energy Materials, 2020, 3, 5427-5438.	5.1	11
141	X-ray photoelectron spectroscopy and rotating disk electrode measurements of smooth sputtered Fe-N-C films. Applied Surface Science, 2020, 515, 146012.	6.1	11
142	Influence of hydrogen and oxygen on the structure and properties of sputtered magnesium zirconium oxynitride thin films. Journal of Materials Chemistry A, 2020, 8, 9364-9372.	10.3	11
143	Improving Interface Stability of Si Anodes by Mg Coating in Li-Ion Batteries. ACS Applied Energy Materials, 2020, 3, 11534-11539.	5.1	10
144	Transient Evolution of the Built-in Field at Junctions of GaAs. ACS Applied Materials & Interfaces, 2020, 12, 40339-40346.	8.0	10

#	Article	IF	Citations
145	Mg _x Zn_{1â^'x}O contact to CuGa₃Se₅ absorber for photovoltaic and photoelectrochemical devices. JPhys Energy, 2021, 3, 024001.	5.3	10
146	Band alignment at the BaCuSeF/ZnTe interface. Applied Physics Letters, 2010, 96, 162110.	3.3	9
147	Phase formation of manganese oxide thin films using pulsed laser deposition. Materials Advances, 2021, 2, 303-309.	5.4	9
148	Influence of Protection Layers on Thermal Stability of Nitride Thin Films. Physica Status Solidi - Rapid Research Letters, 2021, 15, 2100178.	2.4	9
149	Synthesis of Zn₂NbN₃ ternary nitride semiconductor with wurtzite-derived crystal structure. Journal of Physics Condensed Matter, 2021, 33, 354003.	1.8	9
150	Tailoring SnO₂, (Mg,Zn)O, and Ga:(Mg,Zn)O electro-optical properties and stability for solar cells. Journal Physics D: Applied Physics, 2021, 54, 034002.	2.8	9
151	Thermal and Thermomechanical Modeling to Design a Gallium Oxide Power Electronics Package. , 2018, , .		8
152	Nitride layer screening as carrier-selective contacts for silicon heterojunction solar cells. AIP Conference Proceedings, 2018, , .	0.4	8
153	Reactive phosphine combinatorial co-sputtering of cation disordered ZnGeP₂ films. Journal of Materials Chemistry C, 2022, 10, 870-879.	5.5	8
154	Boron Phosphide Films by Reactive Sputtering: Searching for a Pâ€Type Transparent Conductor. Advanced Materials Interfaces, 2022, 9, .	3.7	8
155	<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>n</mml:mi></mml:math> -type electrical conduction in SnS thin films. Physical Review Materials, 2021, 5, .	2.4	8
156	Templated Growth of Metastable Polymorphs on Amorphous Substrates with Seed Layers. Physical Review Applied, 2020, 13, .	3.8	7
157	Three-Dimensional Mapping of Resistivity and Microstructure of Composite Electrodes for Lithium-Ion Batteries. Nano Letters, 2020, 20, 8081-8088.	9.1	7
158	Synthesis of Tunable SnS-TaS₂ Nanoscale Superlattices. Nano Letters, 2020, 20, 7059-7067.	9.1	7
159	Combinatorial screening of the crystal structure in Baâ€"Srâ€"Mnâ€"Ce perovskite oxides with ABO₃stoichiometry. Journal of Materials Chemistry A, 2021, 9, 21032-21043.	10.3	7
160	Growth and characterization of homoepitaxial Î²-Ga₂O₃ layers. Journal Physics D: Applied Physics, 2020, 53, 484002.	2.8	7
161	Two-Step Solid-State Synthesis of Ternary Nitride Materials. , 2021, 3, 1677-1683.		7
162	Predicting Oxygen Off-Stoichiometry and Hydrogen Incorporation in Complex Perovskite Oxides. Chemistry of Materials, 2022, 34, 510-518.	6.7	7

#	Article	IF	Citations
163	Study of Barrier Structures on the Base of Nickel Phthalocyanine Thin Films During the Interaction with the Ammonia Medium. Molecular Crystals and Liquid Crystals, 2008, 496, 131-137.	0.9	6
164	Conduction band position tuning and Ga-doping in (Cd,Zn)S alloy thin films. Materials Chemistry Frontiers, 2017, 1, 1342-1348.	5.9	6
165	Investigating the Effects of Lithium Phosphorous Oxynitride Coating on Blended Solid Polymer Electrolytes. ACS Applied Materials & Interfaces, 2020, 12, 40749-40758.	8.0	6
166	Molecular Coatings Improve the Selectivity and Durability of CO₂ Reduction Chalcogenide Photocathodes. ACS Energy Letters, 2022, 7, 1195-1201.	17.4	6
167	Comparison of Cu<inf>2</inf>SnS<inf>3</inf> and CuSbS<inf>2</inf> as potential solar cell absorbers. , 2014, , .		5
168	High-Throughput Experimental Study of Wurtzite Mn1â€“xZnxO Alloys for Water Splitting Applications. ACS Omega, 2019, 4, 7436-7447.	3.5	5
169	An Open Combinatorial Diffraction Dataset Including Consensus Human and Machine Learning Labels with Quantified Uncertainty for Training New Machine Learning Models. Integrating Materials and Manufacturing Innovation, 2021, 10, 311-318.	2.6	5
170	Theoretical Insights for Improving the Schottky-Barrier Height at the <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" overflow="scroll"><mml:msub><mml:mi>Ga</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:msub><mml:mrow><mml:mi mathvariant="normal">O</mml:mi></mml:mrow><mml:mn>3</mml:mn></mml:msub><mml:mrow><mml:mo>/</mml:mo><mml:mi>Pt</mml:mi></mml:mrow></mml:math> Interface. Physical Review Applied, 2021, 16, .	3.8	5
171	Crystallize It before It Diffuses: Kinetic Stabilization of Thin-Film Phosphorus-Rich Semiconductor CuP₂. Journal of the American Chemical Society, 2022, 144, 13334-13343.	13.7	5
172	Thermal treatment improvement of CuSbS2 absorbers. , 2015, , .		4
173	Effects of low temperature annealing on the transport properties of zinc tin nitride. , 2015, , .		4
174	Combined Spatially Resolved Characterization of Antireflection and Antisoiling Coatings for PV Module Glass. ACS Combinatorial Science, 2020, 22, 197-203.	3.8	4
175	Instrument for spatially resolved, temperature-dependent electrochemical impedance spectroscopy of thin films under locally controlled atmosphere. Review of Scientific Instruments, 2021, 92, 065105.	1.3	4
176	Interdiffusion at the BaCuSeF/ZnTe interface. Thin Solid Films, 2011, 519, 7369-7373.	1.8	3
177	Combinatorial approach to correlations of properties in copper nitride. , 2013, , .		2
178	Amorphous sulfide heterostructure precursors prepared by radio frequency sputtering. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2019, 37, 051201.	1.2	2
179	Combinatorial study of MZO emitters for CdTe-based solar cells. , 2019, , .		2
180	Wurtzite materials in alloys of rock salt compounds. Journal of Materials Research, 2020, 35, 972-980.	2.6	2

#	Article	IF	Citations
181	Electrothermal Modeling and Analysis of Gallium Oxide Power Switching Devices. , 2019, , .		2
182	Lithium nitride coatings deposited by magnetron sputtering on sulfide electrolytes for solid-state batteries. MRS Communications, 2022, 12, 352-357.	1.8	2
183	Copper antimony chalcogenide thin film PV device development. , 2015, , .		1
184	Computational Materials Design: Interplay between Composition, Electronic Structure, Disorder, and Doping due to Dual Sublattice Mixing in Nonequilibrium Synthesis of ZnSnN₂:O (Adv.) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 5		1
185	Why Wideband Gap Needs Techno-economics. , 2019, , .		1
186	High-throughput fabrication and semi-automated characterization of oxide thin film transistors. Chinese Physics B, 2020, 29, 018502.	1.4	1
187	Reduced synthesis temperatures of SrNbO2N perovskite films for photoelectrochemical fuel production. Journal of Materials Research, 2022, 37, 424-435.	2.6	1
188	Solar Cells: Tradeâ€Offs in Thin Film Solar Cells with Layered Chalcostibite Photovoltaic Absorbers (Adv. Energy Mater. 11/2017). Advanced Energy Materials, 2017, 7, .	19.5	0
189	Microstructures in Newly-Realized LnMN3 Phases. Microscopy and Microanalysis, 2021, 27, 3300-3301.	0.4	0
190	Electro-optical stability in gallium magnesium zinc oxide layers for CdTe solar cells. , 2020, , .		0