Kelvin H L Zhang

List of Publications by Year
in descending order

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133 papers	5,108 citations	66234 42 h-index	102304 66 g-index
137 all docs	137 docs citations	137 times ranked	7178 citing authors

#	Article	IF	Citations
1	Correlating the electronic structure of perovskite La1â^'Sr CoO3 with activity for the oxygen evolution reaction: The critical role of Co 3d hole state. Journal of Energy Chemistry, 2022, 65, 637-645.	7.1	39
2	(In_xGa_{1â^'}_x)₂O₃ Thin Film Based Solarâ€Blind Deep UV Photodetectors with Ultraâ€High Detectivity and On/Off Current Ratio. Advanced Optical Materials, 2022, 10, .	3.6	16
3	Modulation of the Bi³⁺ 6s² Lone Pair State in Perovskites for Highâ€Mobility pâ€Type Oxide Semiconductors. Advanced Science, 2022, 9, e2104141.	5.6	23
4	Deep UV transparent conductive oxide thin films realized through degenerately doped wide-bandgap gallium oxide. Cell Reports Physical Science, 2022, 3, 100801.	2.8	15
5	Revealing the Interaction of Charge Carrierâ€“Phonon Coupling by Quantification of Electronic Properties at the SrTiO₃/TiO₂ Heterointerface. Nano Letters, 2022, 22, 2755-2761.	4.5	4
6	Manipulating the metal-to-insulator transition and magnetic properties in manganite thin films via epitaxial strain. Physical Review B, 2022, 105, .	1.1	2
7	Enhanced photo-carrier transportation at semiconductor/electrolyte interface of TiO2 photoanode by oxygen vacancy engineering. Applied Surface Science, 2022, 597, 153744.	3.1	15
8	Ultrafast Anisotropic Evolution of Photoconductivity in Sb₂Se₃ Single Crystals. Journal of Physical Chemistry Letters, 2022, 13, 4988-4994.	2.1	7
9	High performance, electroforming-free, thin film memristors using ionic Na_{0.5}Bi_{0.5}TiO₃. Journal of Materials Chemistry C, 2021, 9, 4522-4531.	2.7	10
10	The electronic structure of transition metal oxides for oxygen evolution reaction. Journal of Materials Chemistry A, 2021, 9, 19465-19488.	5.2	90
11	Intrinsic polaronic photocarrier dynamics in hematite. Physical Review B, 2021, 103, .	1.1	17
12	Experimental and Theoretical Study of the Electronic Structures of Lanthanide Indium Perovskites LnInO₃. Journal of Physical Chemistry C, 2021, 125, 6387-6400.	1.5	11
13	Tailoring the Electronic Structures of the La₂NiMnO₆ Double Perovskite as Efficient Bifunctional Oxygen Electrocatalysis. Chemistry of Materials, 2021, 33, 2062-2071.	3.2	58
14	Facilitating the Deprotonation of OH to O through Fe⁴⁺â€Induced States in Perovskite LaNiO₃ Enables a Fast Oxygen Evolution Reaction. Small, 2021, 17, e2006930.	5.2	40
15	Revealing the Electronic Structure and Optical Properties of CuFeO₂ as a p-Type Oxide Semiconductor. ACS Applied Electronic Materials, 2021, 3, 1834-1841.	2.0	18
16	Structural Anisotropy Determining the Oxygen Evolution Mechanism of Strongly Correlated Perovskite Nickelate Electrocatalyst. ACS Sustainable Chemistry and Engineering, 2021, 9, 4262-4270.	3.2	26
17	Recombination of Polaronic Electronâ€“Hole Pairs in Hematite Determined by Nuclear Quantum Tunneling. Journal of Physical Chemistry Letters, 2021, 12, 4166-4171.	2.1	11
18	Wide Bandgap Oxide Semiconductors: from Materials Physics to Optoelectronic Devices. Advanced Materials, 2021, 33, e2006230.	11.1	185

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19	8â€5: Invited Paper: Pâ€Type Oxide Semiconductors for Displays: Material Design and Fieldâ€Effect Devices. Digest of Technical Papers SID International Symposium, 2021, 52, 92-95.	0.1	1
20	Unusual Role of Point Defects in Perovskite Nickelate Electrocatalysts. ACS Applied Materials & Interfaces, 2021, 13, 24887-24895.	4.0	9
21	Self-biased magnetoelectric switching at room temperature in three-phase ferroelectricâ€“antiferromagneticâ€“ferrimagnetic nanocomposites. Nature Electronics, 2021, 4, 333-341.	13.1	18
22	Direct Growth of Graphene Nanowalls on Inverted Pyramid Silicon for Schottky Junction Solar Cells. ACS Applied Energy Materials, 2021, 4, 6574-6584.	2.5	5
23	Determination of the crystal field and nature of x-ray linear dichroism for Co-O with local octahedral, tetrahedral, and tetragonal symmetries. Physical Review B, 2021, 104, .	1.1	3
24	Pâ€1.4: Pâ€Type Oxide Semiconductors for Displays: Material Design and Fieldâ€Effect Devices. Digest of Technical Papers SID International Symposium, 2021, 52, 693-693.	0.1	0
25	<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msup><mml:mrow><mml:mi>Ni</mml:mi></mml:mrow><mml:mrow><mml:mn -induced semiconductor-to-metal transition in spinel nickel cobaltite thin films. Physical Review B, 2021, 104, .	1.1	13
26	Promoting the Oxygen Evolution Activity of Perovskite Nickelates through Phase Engineering. ACS Applied Materials & Interfaces, 2021, 13, 58566-58575.	4.0	30
27	Barrierless Self-Trapping of Photocarriers in Co₃O₄. Journal of Physical Chemistry Letters, 2021, 12, 12033-12039.	2.1	10
28	Modulation of the electronic states of perovskite SrCrO3 thin films through protonation via low-energy hydrogen plasma implantation approaches. Frontiers of Physics, 2020, 15, 1.	2.4	2
29	Interface Engineered Roomâ€Temperature Ferromagnetic Insulating State in Ultrathin Manganite Films. Advanced Science, 2020, 7, 1901606.	5.6	24
30	Electronic Structure and Interface Energetics of CuBi₂O₄ Photoelectrodes. Journal of Physical Chemistry C, 2020, 124, 22416-22425.	1.5	39
31	Defects in complex oxide thin films for electronics and energy applications: challenges and opportunities. Materials Horizons, 2020, 7, 2832-2859.	6.4	83
32	Optimizing the Electronic Structure of In₂O₃ through Mg Doping for NiO/In₂O₃ pâ€“n Heterojunction Diodes. ACS Applied Materials & Interfaces, 2020, 12, 53446-53453.	4.0	15
33	Atomicâ€Scale Control of Electronic Structure and Ferromagnetic Insulating State in Perovskite Oxide Superlattices by Longâ€Range Tuning of BO₆ Octahedra. Advanced Functional Materials, 2020, 30, 2001984.	7.8	12
34	Micro-Heterogeneous Annihilation Dynamics of Self-Trapped Excitons in Hematite Single Crystals. Journal of Physical Chemistry Letters, 2020, 11, 7867-7873.	2.1	15
35	Electronic Structure, Optical Properties, and Photoelectrochemical Activity of Sn-Doped Fe₂O₃ Thin Films. Journal of Physical Chemistry C, 2020, 124, 12548-12558.	1.5	56
36	P-block metal-based (Sn, In, Bi, Pb) electrocatalysts for selective reduction of CO2 to formate. APL Materials, 2020, 8, .	2.2	93

#	ARTICLE	IF	CITATIONS
37	Recent progress on the electronic structure, defect, and doping properties of Ga2O3. APL Materials, 2020, 8, .	2.2	295
38	Fabrication and Interfacial Electronic Structure of Wide Bandgap NiO and Ga₂O₃ pâ€“n Heterojunction. ACS Applied Electronic Materials, 2020, 2, 456-463.	2.0	66
39	Increased activity in the oxygen evolution reaction by Fe⁴⁺-induced hole states in perovskite La_{1â^'x}Sr_xFeO₃. Journal of Materials Chemistry A, 2020, 8, 4407-4415.	5.2	78
40	Hot-carrier transfer at photocatalytic silicon/platinum interfaces. Journal of Chemical Physics, 2020, 152, 144705.	1.2	8
41	Ni³⁺-Induced Hole States Enhance the Oxygen Evolution Reaction Activity of Ni_xCo_{3â€“x}O₄ Electrocatalysts. Chemistry of Materials, 2019, 31, 7618-7625.	3.2	76
42	Influence of Reduced Cu Surface States on the Photoelectrochemical Properties of CuBi₂O₄. ACS Applied Energy Materials, 2019, 2, 6866-6874.	2.5	23
43	Band edge evolution of transparent <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>Zn</mml:mi><mml:msubsup><mml:mi>M</mml:mi><mml:mi>		

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55	Insights into the electronic structure of OsO2 using soft and hard x-ray photoelectron spectroscopy in combination with density functional theory. Physical Review Materials, 2019, 3, .	0.9	9
56	Creation and Ordering of Oxygen Vacancies at WO_{3â^Î´} and Perovskite Interfaces. ACS Applied Materials & Interfaces, 2018, 10, 17480-17486.	4.0	29
57	Electronic and transport properties of Li-doped NiO epitaxial thin films. Journal of Materials Chemistry C, 2018, 6, 2275-2282.	2.7	122
58	Lithiumâ€Ion Batteries: A Singleâ€Step Hydrothermal Route to 3D Hierarchical Cu₂O/CuO/rGO Nanosheets as Highâ€Performance Anode of Lithiumâ€Ion Batteries (Small 5/2018). Small, 2018, 14, 1870020.	5.2	10
59	Impact of Srâ€Incorporation on Cr Oxidation and Water Dissociation in La_{(1â€“}_x₎Sr_xCrO₃. Advanced Materials Interfaces, 2018, 5, 1701363.	1.9	13
60	Highly Dispersed Metal Carbide on ZIFâ€Derived Pyridinicâ€Nâ€Doped Carbon for CO₂ Enrichment and Selective Hydrogenation. ChemSusChem, 2018, 11, 1040-1047.	3.6	59
61	Orbital controlled band gap engineering of tetragonal BiFeO₃ for optoelectronic applications. Journal of Materials Chemistry C, 2018, 6, 1239-1247.	2.7	80
62	Oxygen-vacancy-mediated dielectric property in perovskite Eu0.5Ba0.5TiO3-Î´ epitaxial thin films. Applied Physics Letters, 2018, 112, .	1.5	16
63	Interface energy band alignment at the all-transparent p-n heterojunction based on NiO and BaSnO3. Applied Physics Letters, 2018, 112, .	1.5	28
64	A Singleâ€Step Hydrothermal Route to 3D Hierarchical Cu₂O/CuO/rGO Nanosheets as Highâ€Performance Anode of Lithiumâ€Ion Batteries. Small, 2018, 14, 1702667.	5.2	84
65	Embedding ZnSe nanodots in nitrogen-doped hollow carbon architectures for superior lithium storage. Nano Research, 2018, 11, 966-978.	5.8	114
66	In Situ Atmospheric Deposition of Ultrasmooth Nickel Oxide for Efficient Perovskite Solar Cells. ACS Applied Materials & Interfaces, 2018, 10, 41849-41854.	4.0	47
67	Origin of Improved Photoelectrochemical Water Splitting in Mixed Perovskite Oxides. Advanced Energy Materials, 2018, 8, 1801972.	10.2	22
68	Fundamental Carrier Lifetime Exceeding 1 Âµs in Cs₂AgBiBr₆ Double Perovskite. Advanced Materials Interfaces, 2018, 5, 1800464.	1.9	173
69	Coordination-dependent surface strain and rational construction of robust structures. Nanotechnology, 2018, 29, 465708.	1.3	1
70	Quick one-pot synthesis of amorphous carbon-coated cobaltâ€“ferrite twin elliptical frustums for enhanced lithium storage capability. Journal of Materials Chemistry A, 2017, 5, 8062-8069.	5.2	47
71	Insulating-to-conducting behavior and band profile across the <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>La</mml:mi><mml:mrow><mml:mn>0.9</mml:mn> epitaxial interface. Physical Review B, 2017, 96, .	1.1	1
72	Strongly Enhanced Photovoltaic Performance and Defect Physics of Airâ€Stable Bismuth Oxyiodide (BiOI). Advanced Materials, 2017, 29, 1702176.	11.1	139

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73	An all-perovskite p-n junction based on transparent conducting p-La1â˜'xSrxCrO3 epitaxial layers. Applied Physics Letters, 2017, 111, .	1.5	12
74	Electronic Structure and Band Alignment at the NiO and SrTiO₃ pâ€"n Heterojunctions. ACS Applied Materials & Interfaces, 2017, 9, 26549-26555.	4.0	65
75	Space matters: Li+ conduction versus strain effect at FePO4/LiFePO4 interface. Applied Physics Letters, 2016, 108, .	1.5	18
76	Size- and dimensionality-dependent optical, magnetic and magneto-optical properties of binary europium-based nanocrystals: EuX (X = O, S, Se, Te). Nanotechnology, 2016, 27, 192001.	1.3	15
77	Vaporâ€"Dissociationâ€"Solid Growth of Three-Dimensional Graphite-like Capsules with Delicate Morphology and Atomic-level Thickness Control. Crystal Growth and Design, 2016, 16, 5040-5048.	1.4	27
78	P-type transparent conducting oxides. Journal of Physics Condensed Matter, 2016, 28, 383002.	0.7	274
79	Hole-induced insulator-to-metal transition in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi mathvariant="normal">L</mml:mi><mml:msub><mml:mi mathvariant="normal">a</mml:mi><mml:mrow><mml:mn>1</mml:mn><mml:mo>â˜'</mml:mo><mml:mi>x</mml:mi></mml:mrow></mml:msub><mml:msub><mml:mi mathvariant="normal">S</mml:mi><mml:msub><mml:mi mathvariant="normal">r</mml:mi><mml:mi>x</mml:mi></mml:msub><mml:msub><mml:mi>Cr</mml:mi><mml:msub><mml:mi	1.1	74
80	Gas convection in fuel cells: An overlooked factor. Electrochimica Acta, 2015, 176, 1476-1483.	2.6	1
81	Perovskite Srâ€Doped LaCrO₃ as a New pâ€Type Transparent Conducting Oxide. Advanced Materials, 2015, 27, 5191-5195.	11.1	160
82	Electronic and magnetic properties of epitaxial perovskite SrCrO₃(0â€‰0â€‰1). Journal of Physics Condensed Matter, 2015, 27, 245605.	0.7	11
83	Argon Cluster Sputtering Source for ToF-SIMS Depth Profiling of Insulating Materials: High Sputter Rate and Accurate Interfacial Information. Journal of the American Society for Mass Spectrometry, 2015, 26, 1283-1290.	1.2	24
84	A new insight into the oxygen diffusion in porous cathodes ofÂlithium-air batteries. Energy, 2015, 83, 669-673.	4.5	29
85	Growth and surface modification of LaFeO3 thin films induced by reductive annealing. Applied Surface Science, 2015, 330, 309-315.	3.1	6
86	Physical justification for ionic conductivity enhancement at strained coherent interfaces. Journal of Power Sources, 2015, 285, 37-42.	4.0	23
87	Initial-stage oriented-attachment one-dimensional assembly of nanocrystals: fundamental insight with a collisionâ€"recrystallization model. RSC Advances, 2015, 5, 54605-54612.	1.7	2
88	Gas transport evaluation in lithiumâ€"air batteries with micro/nano-structured cathodes. Journal of Power Sources, 2015, 274, 762-767.	4.0	15
89	Reflection high-energy electron diffraction beam-induced structural and property changes on WO3 thin films. Applied Physics Letters, 2014, 105, .	1.5	12
90	Outâ€ofâ€Cell Oxygen Diffusivity Evaluation in Lithiumâ€"Air Batteries. ChemElectroChem, 2014, 1, 2052-2057.	1.7	6

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91	Reversible nano-structuring of SrCrO3-Î´ through oxidation and reduction at low temperature. Nature Communications, 2014, 5, 4669.	5.8	60
92	Strain and tilt during epitaxial growth of highly ordered In2O3 nanorods. Nanoscale, 2013, 5, 7445.	2.8	6
93	Gas transport in porous electrodes of solid oxide fuel cells: A review on diffusion and diffusivity measurement. Journal of Power Sources, 2013, 237, 64-73.	4.0	73
94	Design of InxGa1â^'xAs buffer layers for epitaxial growth of high-quality In0.3Ga0.7As films on GaAs substrates. RSC Advances, 2013, 3, 3973.	1.7	4
95	The Impacts of Cation Stoichiometry and Substrate Surface Quality on Nucleation, Structure, Defect Formation, and Intermixing in Complex Oxide Heteroepitaxyâ€“LaCrO₃ on SrTiO₃(001). Advanced Functional Materials, 2013, 23, 2953-2963.	7.8	48
96	Electronic Structure of Epitaxial Sn-Doped Anatase Grown on SrTiO₃(001) by Dip Coating. Journal of Physical Chemistry C, 2013, 117, 15221-15228.	1.5	10
97	Growth of Epitaxial Anatase Nano Islands on SrTiO₃(001) by Dip Coating. Crystal Growth and Design, 2013, 13, 1438-1444.	1.4	12
98	Cation intermixing and electronic deviations at the insulating LaCrO<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>3</mml:mn></mml:msub></mml:math>/SrTiO<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>3</mml:mn></mml:msub></mml:math> heterointerface. Physical Review B, 2013, 88, .	1.1	23
99	Microscopic Origin of Electron Accumulation in In2O3. Physical Review Letters, 2013, 110, 056803.	2.9	103
100	A study of (111) oriented epitaxial thin films of In₂O₃ on cubic Y-doped ZrO₂ by synchrotron based x-ray diffraction â€“ ERRATUM. Journal of Materials Research, 2012, 27, 2447-2447.	1.2	1
101	The evolution of the electronic structure at the Bi/Ag(111) interface studied using photoemission spectroscopy. Journal of Physics Condensed Matter, 2012, 24, 435502.	0.7	9
102	The evaluation of Coulombic interaction in the oriented-attachment growth of colloidal nanorods. Analyst, The, 2012, 137, 4917.	1.7	21
103	Surface structure of In2O3(111) (1Ã—1) determined by density functional theory calculations and low energy electron diffraction. Surface Science, 2012, 606, 1-6.	0.8	21
104	Growth of self-assembled Mn, Sb and MnSb nanostructures on highly oriented pyrolytic graphite. Thin Solid Films, 2012, 520, 6909-6915.	0.8	5
105	Domain Matching Epitaxial Growth of In₂O₃ Thin Films on Î±-Al₂O₃(0001). Crystal Growth and Design, 2012, 12, 1000-1007.	1.4	52
106	A study of (111) oriented epitaxial thin films of In₂O₃ on cubic Y-doped ZrO₂ by synchrotron-based x-ray diffraction. Journal of Materials Research, 2012, 27, 2257-2264.	1.2	7
107	Size-Dependent Shape and Tilt Transitions in In₂O₃ Nanoislands Grown on Cubic Y-Stabilized ZrO₂(001) by Molecular Beam Epitaxy. ACS Nano, 2012, 6, 6717-6729.	7.3	19
108	Cross section and resonance effects in photoemission from Sn-doped In2O3(111). Solid State Communications, 2012, 152, 194-198.	0.9	5

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109	Control of the band-gap states of metal oxides by the application of epitaxial strain: The case of indium oxide. Physical Review B, 2011, 83, .	1.1	42
110	Thickness dependence of the strain, band gap and transport properties of epitaxial In₂O₃thin films grown on Y-stabilised ZrO₂(111). Journal of Physics Condensed Matter, 2011, 23, 334211.	0.7	45
111	Influence of temperature on the epitaxial growth of In2O3 thin films on Y-ZrO2(111). Journal of Crystal Growth, 2011, 318, 345-350.	0.7	12
112	LEEDIâ€“Vand DFT structure determination of the (surd 3imes surd 3)mathrm {R}30^{circ } Pbâ€“Ag(111) surface alloy. Journal of Physics Condensed Matter, 2011, 23, 265006.	0.7	2
113	Observation of a surface alloying-to-dealloying transition during growth of Bi on Ag(111). Physical Review B, 2011, 83, .	1.1	33
114	Determination of the Poisson ratio of (001) and (111) oriented thin films of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><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:mrow></mml:math>by synchrotron-based x-ray diffraction. Physical Review B, 2011, 84, .	1.1	20
115	Structure determination of the p3Ã—3R30â˜ Biâ€“Ag(111) surface alloy using LEED Iâ€“V and DFT analyses. Surface Science, 2010, 604, 1395-1399.	0.8	14
116	Surface Energies Control the Self-Organization of Oriented In₂O₃ Nanostructures on Cubic Zirconia. Nano Letters, 2010, 10, 3740-3746.	4.5	96
117	Control of Two-Dimensional Ordering of F16CuPc on Bi/Ag(111): Effect of Interfacial Interactions. Journal of Physical Chemistry C, 2010, 114, 11234-11241.	1.5	15
118	Tilting during island growth of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mtext>In</mml:mtext></mml:mrow><mml:mn>2</mml:mn></mml:msub> Y-stabilized<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"		

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127	Shape-Controlled Growth of Indium and Aluminum Nanostructures on MoS₂(0001). Journal of Nanoscience and Nanotechnology, 2008, 8, 2707-2712.	0.9	1
128	Molecular orientation of 3, 4, 9, 10-perylene-tetracarboxylic-dianhydride thin films at organic heterojunction interfaces. Applied Physics Letters, 2007, 91, 114102.	1.5	60
129	Synthesis and magnetic properties of MnSb nanoparticles on Si-based substrates. Applied Physics Letters, 2007, 90, 202503.	1.5	17
130	C₆₀ Molecular Chains on Î±â€Sexithiophene Nanostripes. Small, 2007, 3, 2015-2018.	5.2	63
131	Probing the interaction at the C60â€“SiC nanomesh interface. Surface Science, 2007, 601, 2994-3002.	0.8	10
132	C60on SiC Nanomesh. Journal of Physical Chemistry B, 2006, 110, 21873-21881.	1.2	30
133	Tuning the Hole Injection Barrier at the Organic/Metal Interface with Self-Assembled Functionalized Aromatic Thiols. Journal of Physical Chemistry B, 2006, 110, 26075-26080.	1.2	60