Zixuan Guan

List of Publications by Year
in descending order

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34 papers	4,510 citations	257450 24 h-index	377865 34 g-index
34 all docs	34 docs citations	34 times ranked	5296 citing authors

#	Article	IF	Citations
1	High-Flux Solar-Driven Thermochemical Dissociation of CO ₂ and H ₂ O Using Nonstoichiometric Ceria. Science, 2010, 330, 1797-1801.	12.6	1,292
2	Coupling between oxygen redox and cation migration explains unusual electrochemistry in lithium-rich layered oxides. Nature Communications, 2017, 8, 2091.	12.8	469
3	A thermochemical study of ceria: exploiting an old material for new modes of energy conversion and CO ₂ mitigation. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2010, 368, 3269-3294.	3.4	371
4	Sr- and Mn-doped LaAlO3â^Î´ for solar thermochemical H2 and CO production. Energy and Environmental Science, 2013, 6, 2424.	30.8	323
5	High electrochemical activity of the oxide phase in model ceriaâ€“Pt and ceriaâ€“Ni composite anodes. Nature Materials, 2012, 11, 155-161.	27.5	288
6	Metalâ€“oxygen decoordination stabilizes anion redox in Li-rich oxides. Nature Materials, 2019, 18, 256-265.	27.5	280
7	Highly Enhanced Concentration and Stability of Reactive Ce³⁺ on Doped CeO₂ Surface Revealed In Operando. Chemistry of Materials, 2012, 24, 1876-1882.	6.7	169
8	Persistent Stateâ€ofâ€Charge Heterogeneity in Relaxed, Partially Charged Li_{1â^'}_xNi_{1/3}Co_{1/3}Mn_{1/3}O₂ Secondary Particles. Advanced Materials, 2016, 28, 6631-6638.	21.0	142
9	The use of poly-cation oxides to lower the temperature of two-step thermochemical water splitting. Energy and Environmental Science, 2018, 11, 2172-2178.	30.8	105
10	Tuning electrochemically driven surface transformation in atomically flat LaNiO3 thin films for enhanced water electrolysis. Nature Materials, 2021, 20, 674-682.	27.5	105
11	Fluid-enhanced surface diffusion controls intraparticle phase transformations. Nature Materials, 2018, 17, 915-922.	27.5	104
12	Electrochemistry of Mixed Oxygen Ion and Electron Conducting Electrodes in Solid Electrolyte Cells. Annual Review of Chemical and Biomolecular Engineering, 2012, 3, 313-341.	6.8	83
13	Activation of ultrathin SrTiO₃ with subsurface SrRuO₃ for the oxygen evolution reaction. Energy and Environmental Science, 2018, 11, 1762-1769.	30.8	83
14	Ultrafine-grained Ni-rich layered cathode for advanced Li-ion batteries. Energy and Environmental Science, 2021, 14, 6616-6626.	30.8	82
15	Design Rules for High-Valent Redox in Intercalation Electrodes. Joule, 2020, 4, 1369-1397.	24.0	80
16	Equilibrium oxygen storage capacity of ultrathin CeO2-Î´ depends non-monotonically on large biaxial strain. Nature Communications, 2017, 8, 15360.	12.8	71
17	Selective high-temperature CO2 electrolysis enabled by oxidized carbon intermediates. Nature Energy, 2019, 4, 846-855.	39.5	66
18	Pumping liquid metal at high temperatures up to 1,673 kelvin. Nature, 2017, 550, 199-203.	27.8	63

#	Article	IF	Citations
19	Surface reaction and transport in mixed conductors with electrochemically-active surfaces: a 2-D numerical study of ceria. Physical Chemistry Chemical Physics, 2011, 13, 2121-2135.	2.8	53
20	Constructing a pathway for mixed ion and electron transfer reactions for O2 incorporation in Pr0.1Ce0.9O2â^'x. Nature Catalysis, 2020, 3, 116-124.	34.4	40
21	Electrochemical and Chemical Insertion for Energy Transformation and Switching. Annual Review of Materials Research, 2018, 48, 137-165.	9.3	36
22	Charged interfaces: electrochemical and mechanical effects. Energy and Environmental Science, 2018, 11, 1993-2000.	30.8	34
23	The Role of Metal Substitution in Tuning Anion Redox in Sodium Metal Layered Oxides Revealed by Xâ€Ray Spectroscopy and Theory. Angewandte Chemie - International Edition, 2021, 60, 10880-10887.	13.8	32
24	Coulombically-stabilized oxygen hole polarons enable fully reversible oxygen redox. Energy and Environmental Science, 2021, 14, 4858-4867.	30.8	29
25	High-capacity thermochemical CO₂ dissociation using iron-poor ferrites. Energy and Environmental Science, 2020, 13, 592-600.	30.8	23
26	Analyzing the dependence of oxygen incorporation current density on overpotential and oxygen partial pressure in mixed conducting oxide electrodes. Physical Chemistry Chemical Physics, 2017, 19, 23414-23424.	2.8	19
27	Quantifying and Elucidating Thermally Enhanced Minority Carrier Diffusion Length Using Radius-Controlled Rutile Nanowires. Nano Letters, 2017, 17, 5264-5272.	9.1	18
28	Hydroxylation and Cation Segregation in (La_{0.5}Sr_{0.5})FeO_{3â^'Î´} Electrodes. Chemistry of Materials, 2020, 32, 2926-2934.	6.7	12
29	Carbonate formation lowers the electrocatalytic activity of perovskite oxides for water electrolysis. Journal of Materials Chemistry A, 2021, 9, 19940-19948.	10.3	11
30	Galvanostatic Intermittent Titration Technique Reinvented: Part II. Experiments. Journal of the Electrochemical Society, 2021, 168, 120503.	2.9	10
31	Contact Resistance of Carbonâ€“Li_x(Ni,Mn,Co)O₂ Interfaces. Advanced Energy Materials, 2022, 12, .	19.5	7
32	Surface structure of coherently strained ceria ultrathin films. Physical Review B, 2016, 94, .	3.2	6
33	Electro-chemo-mechanical charge carrier equilibrium at interfaces. Physical Chemistry Chemical Physics, 2021, 23, 23730-23740.	2.8	2
34	Thermodynamic guiding principles of high-capacity phase transformation materials for splitting H₂O and CO₂ by thermochemical looping. Journal of Materials Chemistry A, 2022, 10, 3552-3561.	10.3	2