Peng-Fei Yan

List of Publications by Year
in descending order

119 papers	13,100 citations	30070 54 h-index	24258 110 g-index
119 all docs	119 docs citations	119 times ranked	13492 citing authors

#	Article	IF	Citations
1	Reversible aqueous zinc/manganese oxide energy storage from conversion reactions. Nature Energy, 2016, 1, .	39.5	2,186
2	Mesoporous silicon sponge as an anti-pulverization structure for high-performance lithium-ion battery anodes. Nature Communications, 2014, 5, 4105.	12.8	1,160
3	Intragranular cracking as a critical barrier for high-voltage usage of layer-structured cathode for lithium-ion batteries. Nature Communications, 2017, 8, 14101.	12.8	654
4	Tailoring grain boundary structures and chemistry of Ni-rich layered cathodes for enhanced cycle stability of lithium-ion batteries. Nature Energy, 2018, 3, 600-605.	39.5	613
5	Tensile ductility and necking of metallicÂglass. Nature Materials, 2007, 6, 735-739.	27.5	509
6	Liâ€•and Mnâ€Rich Cathode Materials: Challenges to Commercialization. Advanced Energy Materials, 2017, 7, 1601284.	19.5	383
7	Functioning Mechanism of AlF₃ Coating on the Li- and Mn-Rich Cathode Materials. Chemistry of Materials, 2014, 26, 6320-6327.	6.7	333
8	Pushing the limit of layered transition metal oxide cathodes for high-energy density rechargeable Li ion batteries. Energy and Environmental Science, 2018, 11, 1271-1279.	30.8	322
9	Injection of oxygen vacancies in the bulk lattice of layered cathodes. Nature Nanotechnology, 2019, 14, 602-608.	31.5	321
10	Structural and Chemical Evolution of Li- and Mn-Rich Layered Cathode Material. Chemistry of Materials, 2015, 27, 1381-1390.	6.7	311
11	Evolution of Lattice Structure and Chemical Composition of the Surface Reconstruction Layer in Li_{1.2}Ni_{0.2}Mn_{0.6}O₂ Cathode Material for Lithium Ion Batteries. Nano Letters, 2015, 15, 514-522.	9.1	261
12	Highly Stable Operation of Lithium Metal Batteries Enabled by the Formation of a Transient Highâ€Concentration Electrolyte Layer. Advanced Energy Materials, 2016, 6, 1502151.	19.5	236
13	Effect of calcination temperature on the electrochemical properties of nickel-rich LiNi0.76Mn0.14Co0.10O2 cathodes for lithium-ion batteries. Nano Energy, 2018, 49, 538-548.	16.0	213
14	Coupling of electrochemically triggered thermal and mechanical effects to aggravate failure in a layered cathode. Nature Communications, 2018, 9, 2437.	12.8	200
15	Tuning the Solid Electrolyte Interphase for Selective Liâ€•and Naâ€Ion Storage in Hard Carbon. Advanced Materials, 2017, 29, 1606860.	21.0	157
16	Atomic Resolution Structural and Chemical Imaging Revealing the Sequential Migration of Ni, Co, and Mn upon the Battery Cycling of Layered Cathode. Nano Letters, 2017, 17, 3946-3951.	9.1	143
17	Design of porous Si/Câ€“graphite electrodes with long cycle stability and controlled swelling. Energy and Environmental Science, 2017, 10, 1427-1434.	30.8	140
18	Probing the Degradation Mechanism of Li₂MnO₃ Cathode for Li-Ion Batteries. Chemistry of Materials, 2015, 27, 975-982.	6.7	130

#	Article	IF	Citations
19	Charge distribution guided by grain crystallographic orientations in polycrystalline battery materials. Nature Communications, 2020, 11, 83.	12.8	129
20	Atomic to Nanoscale Investigation of Functionalities of an Al₂O₃ Coating Layer on a Cathode for Enhanced Battery Performance. Chemistry of Materials, 2016, 28, 857-863.	6.7	125
21	Ultraâ€High Initial Coulombic Efficiency Induced by Interface Engineering Enables Rapid, Stable Sodium Storage. Angewandte Chemie - International Edition, 2021, 60, 11481-11486.	13.8	124
22	Yolk-shell structured Sb@C anodes for high energy Na-ion batteries. Nano Energy, 2017, 40, 504-511.	16.0	123
23	Surface-Coating Regulated Lithiation Kinetics and Degradation in Silicon Nanowires for Lithium Ion Battery. ACS Nano, 2015, 9, 5559-5566.	14.6	118
24	Rock-Salt Growth-Induced (003) Cracking in a Layered Positive Electrode for Li-Ion Batteries. ACS Energy Letters, 2017, 2, 2607-2615.	17.4	116
25	Realizing superior cycling stability of Ni-Rich layered cathode by combination of grain boundary engineering and surface coating. Nano Energy, 2019, 62, 30-37.	16.0	115
26	Visualizing nanoscale 3D compositional fluctuation of lithium in advanced lithium-ion battery cathodes. Nature Communications, 2015, 6, 8014.	12.8	112
27	Atomic-Resolution Visualization of Distinctive Chemical Mixing Behavior of Ni, Co, and Mn with Li in Layered Lithium Transition-Metal Oxide Cathode Materials. Chemistry of Materials, 2015, 27, 5393-5401.	6.7	108
28	Phase transition induced cracking plaguing layered cathode for sodium-ion battery. Nano Energy, 2018, 54, 148-155.	16.0	106
29	Atomic origins of water-vapour-promoted alloy oxidation. Nature Materials, 2018, 17, 514-518.	27.5	106
30	Enhanced Cycling Stability of Rechargeable Liâ€“O₂ Batteries Using Highâ€Concentration Electrolytes. Advanced Functional Materials, 2016, 26, 605-613.	14.9	104
31	Transmission electron microscopy study of stacking faults and their interaction with pyramidal dislocations in deformed Mg. Acta Materialia, 2010, 58, 173-179.	7.9	101
32	Ni and Co Segregations on Selective Surface Facets and Rational Design of Layered Lithium Transitionâ€Metal Oxide Cathodes. Advanced Energy Materials, 2016, 6, 1502455.	19.5	100
33	Stabilization of Li Metal Anode in DMSOâ€Based Electrolytes via Optimization of Saltâ€“Solvent Coordination for Liâ€“O₂ Batteries. Advanced Energy Materials, 2017, 7, 1602605.	19.5	99
34	Origins of capacity and voltage fading of LiCoO₂ upon high voltage cycling. Journal of Materials Chemistry A, 2019, 7, 20824-20831.	10.3	99
35	Coordination modulation of iridium single-atom catalyst maximizing water oxidation activity. Nature Communications, 2022, 13, 24.	12.8	99
36	Formation of Reversible Solid Electrolyte Interface on Graphite Surface from Concentrated Electrolytes. Nano Letters, 2017, 17, 1602-1609.	9.1	91

#	Article	IF	Citations
37	Dual Bond Enhanced Multidimensional Constructed Composite Silicon Anode for High-Performance Lithium Ion Batteries. ACS Nano, 2019, 13, 8854-8864.	14.6	91
38	Dopant Segregation Boosting Highâ€Voltage Cyclability of Layered Cathode for Sodium Ion Batteries. Advanced Materials, 2019, 31, e1904816.	21.0	89
39	Ultrathin Li₄Ti₅O₁₂ Nanosheets as Anode Materials for Lithium and Sodium Storage. ACS Applied Materials & Interfaces, 2016, 8, 16718-16726.	8.0	87
40	Engineering the interface between LiCoO₂ and Li₁₀GeP₂S₁₂ solid electrolytes with an ultrathin Li₂CoTi₃O₈ interlayer to boost the performance of all-solid-state batteries. Energy and Environmental Science, 2021, 14, 437-450.	30.8	82
41	Dual Interphase Layers In Situ Formed on a Manganese-Based Oxide Cathode Enable Stable Potassium Storage. CheM, 2019, 5, 3220-3231.	11.7	79
42	MOF-derived Co/CoO particles prepared by low temperature reduction for microwave absorption. Chemical Engineering Journal, 2021, 410, 128378.	12.7	79
43	Suppressed oxygen extraction and degradation of LiNi x Mn y Co z O2 cathodes at high charge cut-off voltages. Nano Research, 2017, 10, 4221-4231.	10.4	77
44	Atomically dispersed Ni induced by ultrahigh N-doped carbon enables stable sodium storage. CheM, 2021, 7, 2684-2694.	11.7	77
45	Pushing Lithium Cobalt Oxides to 4.7ÂV by Latticeâ€Matched Interfacial Engineering. Advanced Energy Materials, 2022, 12, .	19.5	77
46	Observation of Electron-Beam-Induced Phase Evolution Mimicking the Effect of the Chargeâ€“Discharge Cycle in Li-Rich Layered Cathode Materials Used for Li Ion Batteries. Chemistry of Materials, 2015, 27, 1375-1380.	6.7	73
47	Effects of structural defects on the electrochemical activation of Li2MnO3. Nano Energy, 2015, 16, 143-151.	16.0	73
48	In Situ Mass Spectrometric Determination of Molecular Structural Evolution at the Solid Electrolyte Interphase in Lithium-Ion Batteries. Nano Letters, 2015, 15, 6170-6176.	9.1	73
49	Hard carbon coated nano-Si/graphite composite as a high performance anode for Li-ion batteries. Journal of Power Sources, 2016, 329, 323-329.	7.8	73
50	Reversible hybrid sodium-CO2 batteries with low charging voltage and long-life. Nano Energy, 2020, 68, 104318.	16.0	70
51	A stable nanoporous silicon anode prepared by modified magnesiothermic reactions. Nano Energy, 2016, 20, 68-75.	16.0	65
52	Controlling Surface Phase Transition and Chemical Reactivity of O3-Layered Metal Oxide Cathodes for High-Performance Na-Ion Batteries. ACS Energy Letters, 2020, 5, 1718-1725.	17.4	64
53	Hydrangea-like Î±-Ni_{1/3}Co_{2/3}(OH)₂ Reinforced by Ethyl Carbamate â€œRivetâ€•for All-Solid-State Supercapacitors with Outstanding Comprehensive Performance. ACS Applied Materials & Interfaces, 2019, 11, 32269-32281.	8.0	63
54	Electrochemically Formed Ultrafine Metal Oxide Nanocatalysts for High-Performance Lithiumâ€“Oxygen Batteries. Nano Letters, 2016, 16, 4932-4939.	9.1	62

#	Article	IF	Citations
55	A Spinel-Integrated P2-Type Layered Composite: High-Rate Cathode for Sodium-Ion Batteries. Journal of the Electrochemical Society, 2016, 163, A584-A591.	2.9	57
56	High performance Li-ion sulfur batteries enabled by intercalation chemistry. Chemical Communications, 2015, 51, 13454-13457.	4.1	55
57	Excess Li-Ion Storage on Reconstructed Surfaces of Nanocrystals To Boost Battery Performance. Nano Letters, 2017, 17, 6018-6026.	9.1	53
58	Synergistical Stabilization of Li Metal Anodes and LiCoO₂ Cathodes in High-Voltage Liâ¯LiCoO₂ Batteries by Potassium Selenocyanate (KSeCN) Additive. ACS Energy Letters, 2022, 7, 1364-1373.	17.4	49
59	Atomistic mechanism of cracking degradation at twin boundary of LiCoO2. Nano Energy, 2020, 78, 105364.	16.0	48
60	Highly stable operation of LiCoO2 at cut-off â‰¥ 4.6ÂV enabled by synergistic structural and interfacial manipulation. Energy Storage Materials, 2022, 46, 406-416.	18.0	48
61	A facile cathode design combining Ni-rich layered oxides with Li-rich layered oxides for lithium-ion batteries. Journal of Power Sources, 2016, 325, 620-629.	7.8	46
62	Effect of Al2O3 on the sintering of garnet-type Li6.5La3Zr1.5Ta0.5O12. Solid State Ionics, 2016, 294, 108-115.	2.7	44
63	Effects of Propylene Carbonate Content in CsPF₆-Containing Electrolytes on the Enhanced Performances of Graphite Electrode for Lithium-Ion Batteries. ACS Applied Materials & Interfaces, 2016, 8, 5715-5722.	8.0	43
64	The Role of Cesium Cation in Controlling Interphasial Chemistry on Graphite Anode in Propylene Carbonate-Rich Electrolytes. ACS Applied Materials & Interfaces, 2015, 7, 20687-20695.	8.0	41
65	The importance of solid electrolyte interphase formation for long cycle stability full-cell Na-ion batteries. Nano Energy, 2016, 27, 664-672.	16.0	41
66	Revealing the minor Li-ion blocking effect of LiCoO2 surface phase transition layer. Journal of Power Sources, 2020, 460, 228126.	7.8	39
67	Enhanced Cyclability of Lithiumâ€“Oxygen Batteries with Electrodes Protected by Surface Films Induced via In Situ Electrochemical Process. Advanced Energy Materials, 2018, 8, 1702340.	19.5	38
68	Phosphorus Enrichment as a New Composition in the Solid Electrolyte Interphase of High-Voltage Cathodes and Its Effects on Battery Cycling. Chemistry of Materials, 2015, 27, 7447-7451.	6.7	37
69	Improvement of Cathode Performance on Pt-CeO_x by Optimization of Electrochemical Pretreatment Condition for PEFC Application. Langmuir, 2012, 28, 16692-16700.	3.5	35
70	Inâ€…Situâ€Grown ZnCo₂O₄ on Singleâ€Walled Carbon Nanotubes as Air Electrode Materials for Rechargeable Lithiumâ€“Oxygen Batteries. ChemSusChem, 2015, 8, 3697-3703.	6.8	34
71	Defect Structure Analysis of Heterointerface between Pt and CeO_x Promoter on Pt Electro-Catalyst. ACS Applied Materials & Interfaces, 2015, 7, 2698-2707.	8.0	34
72	Surface Transformation Enables a Dendriteâ€Free Zincâ€Metal Anode in Nonaqueous Electrolyte. Advanced Materials, 2022, 34, .	21.0	34

#	Article	IF	Citations
73	MAX phase Zr2SeC and its thermal conduction behavior. Journal of the European Ceramic Society, 2021, 41, 4447-4451.	5.7	33
74	Crystallographic dependence of photocatalytic activity of WO₃thin films prepared by molecular beam epitaxy. Physical Chemistry Chemical Physics, 2015, 17, 15119-15123.	2.8	32
75	Fabrication of a nano-structured Pt-loaded cerium oxide nanowire and its anode performance in the methanol electro-oxidation reaction. Journal of Materials Chemistry A, 2013, 1, 6262.	10.3	31
76	Temperature Dependence of the Oxygen Reduction Mechanism in Nonaqueous Liâ€“O₂ Batteries. ACS Energy Letters, 2017, 2, 2525-2530.	17.4	30
77	Revealing the Atomic Origin of Heterogeneous Liâ€Ion Diffusion by Probing Na. Advanced Materials, 2019, 31, e1805889.	21.0	30
78	A new insight into the oxygen diffusion in porous cathodes ofÂlithium-air batteries. Energy, 2015, 83, 669-673.	8.8	29
79	Competing Pathways for Nucleation of the Double Perovskite Structure in the Epitaxial Synthesis of La₂MnNiO₆. Chemistry of Materials, 2016, 28, 3814-3822.	6.7	29
80	Creation and Ordering of Oxygen Vacancies at WO_{3âˆ'Î´} and Perovskite Interfaces. ACS Applied Materials & Interfaces, 2018, 10, 17480-17486.	8.0	29
81	Grain boundary's conductivity in heavily yttrium doped ceria. Solid State Ionics, 2012, 222-223, 31-37.	2.7	28
82	Boosting Activity and Stability of Electrodeposited Amorphous Ceâ€Doped NiFeâ€Based Catalyst for Electrochemical Water Oxidation. Advanced Functional Materials, 2022, 32, .	14.9	27
83	Exploring Lithium-Cobalt-Nickel Oxide Spinel Electrodes for â‰¥3.5 V Li-Ion Cells. ACS Applied Materials & Interfaces, 2016, 8, 27720-27729.	8.0	25
84	Î±- to Î³-Al2O3 martensitic transformation induced by pulsed laser irradiation. Acta Materialia, 2010, 58, 3867-3876.	7.9	23
85	Unraveling TM Migration Mechanisms in LiNi_{1/3}Mn_{1/3}Co_{1/3}O₂ by Modeling and Experimental Studies. Nano Letters, 2021, 21, 6875-6881.	9.1	23
86	A Novel Protective Strategy on Highâ€Voltage LiCoO₂ Cathode for Fast Charging Applications: Li_{1.6}Mg_{1.6}Sn_{2.8}O₈ Double Layer Structure via SnO₂ Surface Modification. Small Methods, 2019, 3, 1900355.	8.6	22
87	Reduction of thermal conductivity in dually doped ZnO by design of three-dimensional stacking faults. RSC Advances, 2014, 4, 2661-2672.	3.6	21
88	Structural Transformations in High-Capacity Li₂Cu_{0.5}Ni_{0.5}O₂ Cathodes. Chemistry of Materials, 2017, 29, 2997-3005.	6.7	21
89	Damage evolution of ion irradiated defected-fluorite La2Zr2O7 epitaxial thin films. Acta Materialia, 2017, 130, 111-120.	7.9	20
90	Atomic pair distribution function research on Li2MnO3 electrode structure evolution. Science Bulletin, 2019, 64, 553-561.	9.0	20

#	Article	IF	Citations
91	Recent Advances on the Understanding of Structural and Composition Evolution of LMR Cathodes for Li-ion Batteries. Frontiers in Energy Research, 2015, 3, .	2.3	19
92	Manganese Doping in Cobalt Oxide Nanorods Promotes Catalytic Dehydrogenation. ACS Sustainable Chemistry and Engineering, 2020, 8, 5734-5741.	6.7	19
93	Sulfur-doped reduced graphene oxide/Sb2S3 composite for superior lithium and sodium storage. Materials Chemistry and Physics, 2020, 244, 122661.	4.0	19
94	Minimizing Polysulfide Shuttle Effect in Lithium-Ion Sulfur Batteries by Anode Surface Passivation. ACS Applied Materials & Interfaces, 2018, 10, 21965-21972.	8.0	18
95	Revealing two distinctive intergranular cracking mechanisms of Ni-rich layered cathode by cross-sectional scanning electron microscopy. Journal of Power Sources, 2021, 503, 230066.	7.8	16
96	Probing the failure mechanism of nanoscale LiFePO4 for Li-ion batteries. Applied Physics Letters, 2015, 106, 203902.	3.3	15
97	Tuning piezoelectric properties through epitaxy of La2Ti2O7 and related thin films. Scientific Reports, 2018, 8, 3037.	3.3	15
98	Î±-CsPbI₃ Nanocrystals by Ultraviolet Light-Driven Oriented Attachment. Journal of Physical Chemistry Letters, 2020, 11, 913-919.	4.6	15
99	Microstructural and Chemical Characterization of Ordered Structure in Yttrium Doped Ceria. Microscopy and Microanalysis, 2013, 19, 102-110.	0.4	14
100	Advancing layered cathode material's cycling stability from uniform doping to non-uniform doping. Journal of Materials Chemistry A, 2020, 8, 16690-16697.	10.3	14
101	Study of the character of gold nanoparticles deposited onto sputtered cerium oxide layers by deposition-precipitation method: Influence of the preparation parameters. Vacuum, 2015, 114, 86-92.	3.5	10
102	Microanalysis of a Grain Boundaryâ€™s Blocking Effect in Lanthanum Silicate Electrolyte for Intermediate-Temperature Solid Oxide Fuel Cells. ACS Applied Materials & Interfaces, 2013, 5, 5307-5313.	8.0	9
103	The interphasial degradation of 4.2ÂV-class poly(ethylene oxide)-based solid batteries beyond electrochemical voltage limit. Journal of Energy Chemistry, 2022, 75, 504-511.	12.9	9
104	Hierarchical Microspheres of Aggregated Silicon Nanoparticles with Nanometre Gaps as the Anode for Lithiumâ€ion Batteries with Excellent Cycling Stability. ChemElectroChem, 2019, 6, 1139-1148.	3.4	8
105	An electrochemical device for the Knudsen and bulk diffusivity measurement in the anodes of solid oxide fuel cells. International Journal of Hydrogen Energy, 2014, 39, 15057-15062.	7.1	7
106	Efficient and Dense Electron Emission from a SiO₂ Tunneling Diode with Low Poisoning Sensitivity. Nano Letters, 2022, 22, 1270-1277.	9.1	7
107	Effect of non-uniform stress characteristics on stress measurement in specimen. Transactions of Nonferrous Metals Society of China, 2010, 20, 789-794.	4.2	6
108	Pyramidal dislocation induced strain relaxation in hexagonal structured InGaN/AlGaN/GaN multilayer. Journal of Applied Physics, 2012, 112, .	2.5	6

#	Article	IF	Citations
109	b-Axis Phase Boundary Movement Induced (020) Plane Cracking in LiFePO₄. ACS Applied Materials & Interfaces, 2020, 12, 39245-39251.	8.0	6
110	Preparation and performance of intermediate-temperature fuel cells based on Gd-doped ceria electrolytes with different compositions. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2012, 177, 1538-1541.	3.5	5
111	High electrical conductivity in Ba₂In₂O₅brownmillerite based materials induced by design of a Frenkel defect structure. RSC Advances, 2017, 7, 4688-4696.	3.6	4
112	Coulombic interaction in the colloidal oriented-attachment growth of tetragonal nanorods. Chinese Physics B, 2014, 23, 056103.	1.4	3
113	Interfacial Reaction Dependent Performance of Hollow Carbon Nanosphere Ã¢â‚¬â€œ Sulfur Composite as a Cathode for Li-S Battery. Frontiers in Energy Research, 2015, 3, .	2.3	3
114	LiCoO2 Epitaxial Film Enabling Precise Analysis of Interfacial Degradations. Chinese Physics Letters, 2021, 38, 068202.	3.3	2
115	Structural and Chemical Evolution of Li and Mn Rich Layered Oxide Cathode and Correlation with Capacity and Voltage Fading. Microscopy and Microanalysis, 2015, 21, 141-142.	0.4	1
116	Charge-Discharge Cycling Induced Structural and Chemical Evolution of Li2MnO3 Cathode for Li-ion Batteries. Microscopy and Microanalysis, 2015, 21, 473-474.	0.4	0
117	Time-resolved Atomic-scale Chemical Imaging of the Dynamic Phase Transformation in Li-rich Layered Cathode Materials Induced by Electron-beam Irradiation. Microscopy and Microanalysis, 2016, 22, 1298-1299.	0.4	0
118	Investigating Side Reactions and Coating Effects on High Voltage Layered Cathodes for Lithium Ion Batteries. Microscopy and Microanalysis, 2016, 22, 1312-1313.	0.4	0
119	Revealing the Doping Effect in Stabilizing Layered Cathode Materials for Sodium-Ion Battery. ECS Meeting Abstracts, 2019, , .	0.0	0