

Peng-Fei Yan

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115
papers

8,746
citations

46
h-index

93
g-index

119
ext. papers

10,982
ext. citations

13.1
avg. IF

6.23
L-index

#	Paper	IF	Citations
115	Reversible aqueous zinc/manganese oxide energy storage from conversion reactions. <i>Nature Energy</i> , 2016 , 1,	62.3	1461
114	Mesoporous silicon sponge as an anti-pulverization structure for high-performance lithium-ion battery anodes. <i>Nature Communications</i> , 2014 , 5, 4105	17.4	646
113	Tensile ductility and necking of metallic glass. <i>Nature Materials</i> , 2007 , 6, 735-9	27	453
112	Intragranular cracking as a critical barrier for high-voltage usage of layer-structured cathode for lithium-ion batteries. <i>Nature Communications</i> , 2017 , 8, 14101	17.4	436
111	Tailoring grain boundary structures and chemistry of Ni-rich layered cathodes for enhanced cycle stability of lithium-ion batteries. <i>Nature Energy</i> , 2018 , 3, 600-605	62.3	402
110	Li- and Mn-Rich Cathode Materials: Challenges to Commercialization. <i>Advanced Energy Materials</i> , 2017 , 7, 1601284	21.8	266
109	Functioning Mechanism of AlF ₃ Coating on the Li- and Mn-Rich Cathode Materials. <i>Chemistry of Materials</i> , 2014 , 26, 6320-6327	9.6	264
108	Structural and Chemical Evolution of Li- and Mn-Rich Layered Cathode Material. <i>Chemistry of Materials</i> , 2015 , 27, 1381-1390	9.6	240
107	Pushing the limit of layered transition metal oxide cathodes for high-energy density rechargeable Li ion batteries. <i>Energy and Environmental Science</i> , 2018 , 11, 1271-1279	35.4	225
106	Evolution of lattice structure and chemical composition of the surface reconstruction layer in Li(1.2)Ni(0.2)Mn(0.6)O ₂ cathode material for lithium ion batteries. <i>Nano Letters</i> , 2015 , 15, 514-22	11.5	213
105	Injection of oxygen vacancies in the bulk lattice of layered cathodes. <i>Nature Nanotechnology</i> , 2019 , 14, 602-608	28.7	180
104	Highly Stable Operation of Lithium Metal Batteries Enabled by the Formation of a Transient High-Concentration Electrolyte Layer. <i>Advanced Energy Materials</i> , 2016 , 6, 1502151	21.8	165
103	Coupling of electrochemically triggered thermal and mechanical effects to aggravate failure in a layered cathode. <i>Nature Communications</i> , 2018 , 9, 2437	17.4	131
102	Effect of calcination temperature on the electrochemical properties of nickel-rich LiNi _{0.76} Mn _{0.14} Co _{0.10} O ₂ cathodes for lithium-ion batteries. <i>Nano Energy</i> , 2018 , 49, 538-548	17.1	120
101	Tuning the Solid Electrolyte Interphase for Selective Li- and Na-Ion Storage in Hard Carbon. <i>Advanced Materials</i> , 2017 , 29, 1606860	24	119
100	Atomic Resolution Structural and Chemical Imaging Revealing the Sequential Migration of Ni, Co, and Mn upon the Battery Cycling of Layered Cathode. <i>Nano Letters</i> , 2017 , 17, 3946-3951	11.5	110
99	Probing the Degradation Mechanism of Li ₂ MnO ₃ Cathode for Li-Ion Batteries. <i>Chemistry of Materials</i> , 2015 , 27, 975-982	9.6	107

98	Atomic to Nanoscale Investigation of Functionalities of an Al ₂ O ₃ Coating Layer on a Cathode for Enhanced Battery Performance. <i>Chemistry of Materials</i> , 2016 , 28, 857-863	9.6	105
97	Design of porous Si/C-graphite electrodes with long cycle stability and controlled swelling. <i>Energy and Environmental Science</i> , 2017 , 10, 1427-1434	35.4	103
96	Yolk-shell structured Sb@C anodes for high energy Na-ion batteries. <i>Nano Energy</i> , 2017 , 40, 504-511	17.1	103
95	Surface-coating regulated lithiation kinetics and degradation in silicon nanowires for lithium ion battery. <i>ACS Nano</i> , 2015 , 9, 5559-66	16.7	99
94	Enhanced Cycling Stability of Rechargeable Li-DB Batteries Using High-Concentration Electrolytes. <i>Advanced Functional Materials</i> , 2016 , 26, 605-613	15.6	91
93	Visualizing nanoscale 3D compositional fluctuation of lithium in advanced lithium-ion battery cathodes. <i>Nature Communications</i> , 2015 , 6, 8014	17.4	89
92	Atomic-Resolution Visualization of Distinctive Chemical Mixing Behavior of Ni, Co, and Mn with Li in Layered Lithium Transition-Metal Oxide Cathode Materials. <i>Chemistry of Materials</i> , 2015 , 27, 5393-5401	9.6	87
91	Transmission electron microscopy study of stacking faults and their interaction with pyramidal dislocations in deformed Mg. <i>Acta Materialia</i> , 2010 , 58, 173-179	8.4	85
90	Stabilization of Li Metal Anode in DMSO-Based Electrolytes via Optimization of Salt-Solvent Coordination for Li-DB Batteries. <i>Advanced Energy Materials</i> , 2017 , 7, 1602605	21.8	78
89	Ultrathin Li ₄ Ti ₅ O ₁₂ Nanosheets as Anode Materials for Lithium and Sodium Storage. <i>ACS Applied Materials & Interfaces</i> , 2016 , 8, 16718-26	9.5	77
88	Charge distribution guided by grain crystallographic orientations in polycrystalline battery materials. <i>Nature Communications</i> , 2020 , 11, 83	17.4	75
87	Realizing superior cycling stability of Ni-Rich layered cathode by combination of grain boundary engineering and surface coating. <i>Nano Energy</i> , 2019 , 62, 30-37	17.1	74
86	Ni and Co Segregations on Selective Surface Facets and Rational Design of Layered Lithium Transition-Metal Oxide Cathodes. <i>Advanced Energy Materials</i> , 2016 , 6, 1502455	21.8	72
85	Rock-Salt Growth-Induced (003) Cracking in a Layered Positive Electrode for Li-Ion Batteries. <i>ACS Energy Letters</i> , 2017 , 2, 2607-2615	20.1	70
84	Formation of Reversible Solid Electrolyte Interface on Graphite Surface from Concentrated Electrolytes. <i>Nano Letters</i> , 2017 , 17, 1602-1609	11.5	64
83	Phase transition induced cracking plaguing layered cathode for sodium-ion battery. <i>Nano Energy</i> , 2018 , 54, 148-155	17.1	63
82	Dual Bond Enhanced Multidimensional Constructed Composite Silicon Anode for High-Performance Lithium Ion Batteries. <i>ACS Nano</i> , 2019 , 13, 8854-8864	16.7	60
81	Observation of Electron-Beam-Induced Phase Evolution Mimicking the Effect of the Charge-Discharge Cycle in Li-Rich Layered Cathode Materials Used for Li Ion Batteries. <i>Chemistry of Materials</i> , 2015 , 27, 1375-1380	9.6	60

80	Atomic origins of water-vapour-promoted alloy oxidation. <i>Nature Materials</i> , 2018 , 17, 514-518	27	59
79	A stable nanoporous silicon anode prepared by modified magnesiothermic reactions. <i>Nano Energy</i> , 2016 , 20, 68-75	17.1	58
78	Hard carbon coated nano-Si/graphite composite as a high performance anode for Li-ion batteries. <i>Journal of Power Sources</i> , 2016 , 329, 323-329	8.9	57
77	In Situ Mass Spectrometric Determination of Molecular Structural Evolution at the Solid Electrolyte Interphase in Lithium-Ion Batteries. <i>Nano Letters</i> , 2015 , 15, 6170-6	11.5	55
76	Electrochemically Formed Ultrafine Metal Oxide Nanocatalysts for High-Performance Lithium-Oxygen Batteries. <i>Nano Letters</i> , 2016 , 16, 4932-9	11.5	55
75	Suppressed oxygen extraction and degradation of LiNi _x Mn _y Co _z O ₂ cathodes at high charge cut-off voltages. <i>Nano Research</i> , 2017 , 10, 4221-4231	10	51
74	Ultra-High Initial Coulombic Efficiency Induced by Interface Engineering Enables Rapid, Stable Sodium Storage. <i>Angewandte Chemie - International Edition</i> , 2021 , 60, 11481-11486	16.4	51
73	Effects of structural defects on the electrochemical activation of Li ₂ MnO ₃ . <i>Nano Energy</i> , 2015 , 16, 143-151	11.1	50
72	Hydrangea-like NiCo(OH) Reinforced by Ethyl Carbamate "Rivet" for All-Solid-State Supercapacitors with Outstanding Comprehensive Performance. <i>ACS Applied Materials & Interfaces</i> , 2019 , 11, 32269-32281	9.5	50
71	Reversible hybrid sodium-CO ₂ batteries with low charging voltage and long-life. <i>Nano Energy</i> , 2020 , 68, 104318	17.1	49
70	Origins of capacity and voltage fading of LiCoO ₂ upon high voltage cycling. <i>Journal of Materials Chemistry A</i> , 2019 , 7, 20824-20831	13	47
69	Dopant Segregation Boosting High-Voltage Cyclability of Layered Cathode for Sodium Ion Batteries. <i>Advanced Materials</i> , 2019 , 31, e1904816	24	46
68	High performance Li-ion sulfur batteries enabled by intercalation chemistry. <i>Chemical Communications</i> , 2015 , 51, 13454-7	5.8	45
67	A Spinel-Integrated P2-Type Layered Composite: High-Rate Cathode for Sodium-Ion Batteries. <i>Journal of the Electrochemical Society</i> , 2016 , 163, A584-A591	3.9	45
66	Dual Interphase Layers In Situ Formed on a Manganese-Based Oxide Cathode Enable Stable Potassium Storage. <i>CheM</i> , 2019 , 5, 3220-3231	16.2	42
65	Controlling Surface Phase Transition and Chemical Reactivity of O ₃ -Layered Metal Oxide Cathodes for High-Performance Na-Ion Batteries. <i>ACS Energy Letters</i> , 2020 , 5, 1718-1725	20.1	38
64	Excess Li-Ion Storage on Reconstructed Surfaces of Nanocrystals To Boost Battery Performance. <i>Nano Letters</i> , 2017 , 17, 6018-6026	11.5	37
63	A facile cathode design combining Ni-rich layered oxides with Li-rich layered oxides for lithium-ion batteries. <i>Journal of Power Sources</i> , 2016 , 325, 620-629	8.9	36

62	Phosphorus Enrichment as a New Composition in the Solid Electrolyte Interphase of High-Voltage Cathodes and Its Effects on Battery Cycling. <i>Chemistry of Materials</i> , 2015 , 27, 7447-7451	9.6	34
61	Enhanced Cyclability of Lithium-Oxygen Batteries with Electrodes Protected by Surface Films Induced via In Situ Electrochemical Process. <i>Advanced Energy Materials</i> , 2018 , 8, 1702340	21.8	33
60	The importance of solid electrolyte interphase formation for long cycle stability full-cell Na-ion batteries. <i>Nano Energy</i> , 2016 , 27, 664-672	17.1	33
59	Effect of Al ₂ O ₃ on the sintering of garnet-type Li _{6.5} La ₃ Zr _{1.5} Ta _{0.5} O ₁₂ . <i>Solid State Ionics</i> , 2016 , 294, 108-115	3.3	33
58	In Situ-Grown ZnCo ₂ O ₄ on Single-Walled Carbon Nanotubes as Air Electrode Materials for Rechargeable Lithium-Oxygen Batteries. <i>ChemSusChem</i> , 2015 , 8, 3697-703	8.3	31
57	Effects of Propylene Carbonate Content in CsPF ₆ -Containing Electrolytes on the Enhanced Performances of Graphite Electrode for Lithium-Ion Batteries. <i>ACS Applied Materials & Interfaces</i> , 2016 , 8, 5715-22	9.5	29
56	MOF-derived Co/CoO particles prepared by low temperature reduction for microwave absorption. <i>Chemical Engineering Journal</i> , 2021 , 410, 128378	14.7	29
55	The Role of Cesium Cation in Controlling Interphasial Chemistry on Graphite Anode in Propylene Carbonate-Rich Electrolytes. <i>ACS Applied Materials & Interfaces</i> , 2015 , 7, 20687-95	9.5	28
54	Improvement of cathode performance on Pt-CeO(x) by optimization of electrochemical pretreatment condition for PEFC application. <i>Langmuir</i> , 2012 , 28, 16692-700	4	28
53	Fabrication of a nano-structured Pt-loaded cerium oxide nanowire and its anode performance in the methanol electro-oxidation reaction. <i>Journal of Materials Chemistry A</i> , 2013 , 1, 6262	13	27
52	A new insight into the oxygen diffusion in porous cathodes of lithium-air batteries. <i>Energy</i> , 2015 , 83, 669-673	7.9	27
51	Defect structure analysis of heterointerface between Pt and CeO _x promoter on Pt electro-catalyst. <i>ACS Applied Materials & Interfaces</i> , 2015 , 7, 2698-707	9.5	26
50	Engineering the interface between LiCoO ₂ and Li ₁₀ GeP ₂ S ₁₂ solid electrolytes with an ultrathin Li ₂ CoTi ₃ O ₈ interlayer to boost the performance of all-solid-state batteries. <i>Energy and Environmental Science</i> , 2021 , 14, 437-450	35.4	26
49	Grain boundary conductivity in heavily yttrium doped ceria. <i>Solid State Ionics</i> , 2012 , 222-223, 31-37	3.3	25
48	Exploring Lithium-Cobalt-Nickel Oxide Spinel Electrodes for 4.5 V Li-Ion Cells. <i>ACS Applied Materials & Interfaces</i> , 2016 , 8, 27720-27729	9.5	23
47	Crystallographic dependence of photocatalytic activity of WO ₃ thin films prepared by molecular beam epitaxy. <i>Physical Chemistry Chemical Physics</i> , 2015 , 17, 15119-23	3.6	22
46	Competing Pathways for Nucleation of the Double Perovskite Structure in the Epitaxial Synthesis of La ₂ MnNiO ₆ . <i>Chemistry of Materials</i> , 2016 , 28, 3814-3822	9.6	22
45	Temperature Dependence of the Oxygen Reduction Mechanism in Nonaqueous Li-O ₂ Batteries. <i>ACS Energy Letters</i> , 2017 , 2, 2525-2530	20.1	20

44	Revealing the Atomic Origin of Heterogeneous Li-Ion Diffusion by Probing Na. <i>Advanced Materials</i> , 2019 , 31, e1805889	24	20
43	Creation and Ordering of Oxygen Vacancies at WO and Perovskite Interfaces. <i>ACS Applied Materials & Interfaces</i> , 2018 , 10, 17480-17486	9.5	20
42	From α - Al_2O_3 martensitic transformation induced by pulsed laser irradiation. <i>Acta Materialia</i> , 2010 , 58, 3867-3876	8.4	20
41	Coordination modulation of iridium single-atom catalyst maximizing water oxidation activity.. <i>Nature Communications</i> , 2022 , 13, 24	17.4	20
40	Atomically dispersed Ni induced by ultrahigh N-doped carbon enables stable sodium storage. <i>Chem</i> , 2021 ,	16.2	19
39	Reduction of thermal conductivity in dually doped ZnO by design of three-dimensional stacking faults. <i>RSC Advances</i> , 2014 , 4, 2661-2672	3.7	17
38	Minimizing Polysulfide Shuttle Effect in Lithium-Ion Sulfur Batteries by Anode Surface Passivation. <i>ACS Applied Materials & Interfaces</i> , 2018 , 10, 21965-21972	9.5	16
37	Recent Advances on the Understanding of Structural and Composition Evolution of LMR Cathodes for Li-ion Batteries. <i>Frontiers in Energy Research</i> , 2015 , 3,	3.8	16
36	Structural Transformations in High-Capacity $\text{Li}_2\text{Cu}_{0.5}\text{Ni}_{0.5}\text{O}_2$ Cathodes. <i>Chemistry of Materials</i> , 2017 , 29, 2997-3005	9.6	15
35	Revealing the minor Li-ion blocking effect of LiCoO_2 surface phase transition layer. <i>Journal of Power Sources</i> , 2020 , 460, 228126	8.9	15
34	Damage evolution of ion irradiated defected-fluorite $\text{La}_2\text{Zr}_2\text{O}_7$ epitaxial thin films. <i>Acta Materialia</i> , 2017 , 130, 111-120	8.4	14
33	Microstructural and chemical characterization of ordered structure in yttrium doped ceria. <i>Microscopy and Microanalysis</i> , 2013 , 19, 102-10	0.5	13
32	Sulfur-doped reduced graphene oxide/ Sb_2S_3 composite for superior lithium and sodium storage. <i>Materials Chemistry and Physics</i> , 2020 , 244, 122661	4.4	12
31	A Novel Protective Strategy on High-Voltage LiCoO_2 Cathode for Fast Charging Applications: $\text{Li}_{1.6}\text{Mg}_{1.6}\text{Sn}_{2.8}\text{O}_8$ Double Layer Structure via SnO_2 Surface Modification. <i>Small Methods</i> , 2019 , 3, 1900355	12.8	11
30	Probing the failure mechanism of nanoscale LiFePO_4 for Li-ion batteries. <i>Applied Physics Letters</i> , 2015 , 106, 203902	3.4	11
29	Tuning piezoelectric properties through epitaxy of LaTiO and related thin films. <i>Scientific Reports</i> , 2018 , 8, 3037	4.9	10
28	Atomistic mechanism of cracking degradation at twin boundary of LiCoO_2 . <i>Nano Energy</i> , 2020 , 78, 105364	7.1	10
27	Atomic pair distribution function research on Li_2MnO_3 electrode structure evolution. <i>Science Bulletin</i> , 2019 , 64, 553-561	10.6	9

26	PCsPbl Nanocrystals by Ultraviolet Light-Driven Oriented Attachment. <i>Journal of Physical Chemistry Letters</i> , 2020 , 11, 913-919	6.4	9
25	Pushing Lithium Cobalt Oxides to 4.7V by Lattice-Matched Interfacial Engineering. <i>Advanced Energy Materials</i> , 2020 , 10, 2200197	21.8	9
24	Manganese Doping in Cobalt Oxide Nanorods Promotes Catalytic Dehydrogenation. <i>ACS Sustainable Chemistry and Engineering</i> , 2020 , 8, 5734-5741	8.3	8
23	Highly stable operation of LiCoO ₂ at cut-off ~4.6 V enabled by synergistic structural and interfacial manipulation. <i>Energy Storage Materials</i> , 2022 , 46, 406-416	19.4	8
22	An electrochemical device for the Knudsen and bulk diffusivity measurement in the anodes of solid oxide fuel cells. <i>International Journal of Hydrogen Energy</i> , 2014 , 39, 15057-15062	6.7	7
21	Microanalysis of a grain boundary's blocking effect in lanthanum silicate electrolyte for intermediate-temperature solid oxide fuel cells. <i>ACS Applied Materials & Interfaces</i> , 2013 , 5, 5307-13	9.5	7
20	Advancing layered cathode materials' cycling stability from uniform doping to non-uniform doping. <i>Journal of Materials Chemistry A</i> , 2020 , 8, 16690-16697	13	7
19	Study of the character of gold nanoparticles deposited onto sputtered cerium oxide layers by deposition-precipitation method: Influence of the preparation parameters. <i>Vacuum</i> , 2015 , 114, 86-92	3.7	6
18	MAX phase Zr ₂ SeC and its thermal conduction behavior. <i>Journal of the European Ceramic Society</i> , 2021 , 41, 4447-4451	6	6
17	Unraveling TM Migration Mechanisms in LiNiMnCoO by Modeling and Experimental Studies. <i>Nano Letters</i> , 2021 , 21, 6875-6881	11.5	6
16	Effect of non-uniform stress characteristics on stress measurement in specimen. <i>Transactions of Nonferrous Metals Society of China</i> , 2010 , 20, 789-794	3.3	5
15	Pyramidal dislocation induced strain relaxation in hexagonal structured InGaN/AlGaN/GaN multilayer. <i>Journal of Applied Physics</i> , 2012 , 112, 083502	2.5	5
14	Hierarchical Microspheres of Aggregated Silicon Nanoparticles with Nanometre Gaps as the Anode for Lithium-Ion Batteries with Excellent Cycling Stability. <i>ChemElectroChem</i> , 2019 , 6, 1139-1148	4.3	5
13	High electrical conductivity in Ba ₂ In ₂ O ₅ brownmillerite based materials induced by design of a Frenkel defect structure. <i>RSC Advances</i> , 2017 , 7, 4688-4696	3.7	4
12	Revealing two distinctive intergranular cracking mechanisms of Ni-rich layered cathode by cross-sectional scanning electron microscopy. <i>Journal of Power Sources</i> , 2021 , 503, 230066	8.9	4
11	Coulombic interaction in the colloidal oriented-attachment growth of tetragonal nanorods. <i>Chinese Physics B</i> , 2014 , 23, 056103	1.2	3
10	Interfacial Reaction Dependent Performance of Hollow Carbon Nanosphere @Sulfur Composite as a Cathode for Li-S Battery. <i>Frontiers in Energy Research</i> , 2015 , 3,	3.8	3
9	Preparation and performance of intermediate-temperature fuel cells based on Gd-doped ceria electrolytes with different compositions. <i>Materials Science and Engineering B: Solid-State Materials for Advanced Technology</i> , 2012 , 177, 1538-1541	3.1	3

8	Synergistical Stabilization of Li Metal Anodes and LiCoO ₂ Cathodes in High-Voltage Li LiCoO ₂ Batteries by Potassium Selenocyanate (KSeCN) Additive. <i>ACS Energy Letters</i> , 2022 , 7, 1364-1373	20.1	3
7	Structural and Chemical Evolution of Li and Mn Rich Layered Oxide Cathode and Correlation with Capacity and Voltage Fading. <i>Microscopy and Microanalysis</i> , 2015 , 21, 141-142	0.5	1
6	Efficient and Dense Electron Emission from a SiO Tunneling Diode with Low Poisoning Sensitivity.. <i>Nano Letters</i> , 2022 ,	11.5	1
5	-Axis Phase Boundary Movement Induced (020) Plane Cracking in LiFePO ₄ . <i>ACS Applied Materials & Interfaces</i> , 2020 , 12, 39245-39251	9.5	1
4	LiCoO ₂ Epitaxial Film Enabling Precise Analysis of Interfacial Degradations. <i>Chinese Physics Letters</i> , 2021 , 38, 068202	1.8	0
3	Charge-Discharge Cycling Induced Structural and Chemical Evolution of Li ₂ MnO ₃ Cathode for Li-ion Batteries. <i>Microscopy and Microanalysis</i> , 2015 , 21, 473-474	0.5	
2	Time-resolved Atomic-scale Chemical Imaging of the Dynamic Phase Transformation in Li-rich Layered Cathode Materials Induced by Electron-beam Irradiation. <i>Microscopy and Microanalysis</i> , 2016 , 22, 1298-1299	0.5	
1	Investigating Side Reactions and Coating Effects on High Voltage Layered Cathodes for Lithium Ion Batteries. <i>Microscopy and Microanalysis</i> , 2016 , 22, 1312-1313	0.5	