

Dewei Rao

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

88
papers

2,545
citations

28
h-index

47
g-index

92
ext. papers

3,346
ext. citations

8.9
avg, IF

5.33
L-index

#	Paper	IF	Citations
88	CNT-assembled dodecahedra core@nickel hydroxide nanosheet shell enabled sulfur cathode for high-performance lithium-sulfur batteries. <i>Nano Energy</i> , 2019 , 55, 82-92	17.1	154
87	Efficient band structure tuning, charge separation, and visible-light response in ZrS ₂ -based van der Waals heterostructures. <i>Energy and Environmental Science</i> , 2016 , 9, 841-849	35.4	123
86	Lattice oxygen activation enabled by high-valence metal sites for enhanced water oxidation. <i>Nature Communications</i> , 2020 , 11, 4066	17.4	105
85	Ketjen Black-MnO Composite Coated Separator For High Performance Rechargeable Lithium-Sulfur Battery. <i>Electrochimica Acta</i> , 2016 , 192, 346-356	6.7	98
84	Ultra-high energy storage and ultrafast ion diffusion in borophene-based anodes for rechargeable metal ion batteries. <i>Journal of Materials Chemistry A</i> , 2017 , 5, 2328-2338	13	95
83	Mechanism on the Improved Performance of Lithium Sulfur Batteries with MXene-Based Additives. <i>Journal of Physical Chemistry C</i> , 2017 , 121, 11047-11054	3.8	84
82	Lattice-Strain Engineering of Homogeneous NiS Se Core-Shell Nanostructure as a Highly Efficient and Robust Electrocatalyst for Overall Water Splitting. <i>Advanced Materials</i> , 2020 , 32, e2000231	24	79
81	Boron-substituted graphyne as a versatile material with high storage capacities of Li and H ₂ : a multiscale theoretical study. <i>Physical Chemistry Chemical Physics</i> , 2013 , 15, 16120-6	3.6	78
80	Simultaneous Manipulation of O-Doping and Metal Vacancy in Atomically Thin Zn In S Nanosheet Arrays toward Improved Photoelectrochemical Performance. <i>Angewandte Chemie - International Edition</i> , 2018 , 57, 16882-16887	16.4	75
79	Atomic Vacancies Control of Pd-Based Catalysts for Enhanced Electrochemical Performance. <i>Advanced Materials</i> , 2018 , 30, 1704171	24	74
78	Rational Design and Strain Engineering of Nanoporous Boron Nitride Nanosheet Membranes for Water Desalination. <i>Journal of Physical Chemistry C</i> , 2017 , 121, 22105-22113	3.8	70
77	Mechanism of polysulfide immobilization on defective graphene sheets with N-substitution. <i>Carbon</i> , 2016 , 110, 207-214	10.4	68
76	Prominently Improved Hydrogen Purification and Dispersive Metal Binding for Hydrogen Storage by Substitutional Doping in Porous Graphene. <i>Journal of Physical Chemistry C</i> , 2012 , 116, 21291-21296	3.8	68
75	Hexagonal Boron Nitride with Designed Nanopores as a High-Efficiency Membrane for Separating Gaseous Hydrogen from Methane. <i>Journal of Physical Chemistry C</i> , 2015 , 119, 19826-19831	3.8	56
74	Engineering the Surface Metal Active Sites of Nickel Cobalt Oxide Nanoplates toward Enhanced Oxygen Electrocatalysis for Zn-Air Battery. <i>ACS Applied Materials & Interfaces</i> , 2019 , 11, 4915-4921	9.5	56
73	N Electroreduction to NH ₃ by Selenium Vacancy-Rich ReSe Catalysis at an Abrupt Interface. <i>Angewandte Chemie - International Edition</i> , 2020 , 59, 13320-13327	16.4	53
72	Lithium-doped MOF impregnated with lithium-coated fullerenes: a hydrogen storage route for high gravimetric and volumetric uptakes at ambient temperatures. <i>Chemical Communications</i> , 2011 , 47, 7698-7700	5.8	53

71	Graphdiyne as a High-Efficiency Membrane for Separating Oxygen from Harmful Gases: A First-Principles Study. <i>ACS Applied Materials & Interfaces</i> , 2016 , 8, 28166-28170	9.5	48
70	A promising monolayer membrane for oxygen separation from harmful gases: nitrogen-substituted polyphenylene. <i>Nanoscale</i> , 2014 , 6, 9960-4	7.7	47
69	Mg _{0.6} Ni _{0.4} O hollow nanofibers prepared by electrospinning as additive for improving electrochemical performance of lithium-sulfur batteries. <i>Journal of Alloys and Compounds</i> , 2015 , 650, 351-356	5.7	45
68	Enhanced light harvesting and electron-hole separation for efficient photocatalytic hydrogen evolution over Cu ₇ S ₄ -enwrapped Cu ₂ O nanocubes. <i>Applied Catalysis B: Environmental</i> , 2019 , 246, 202-210	21.8	41
67	Separator modified by Ketjen black for enhanced electrochemical performance of lithium-sulfur batteries. <i>RSC Advances</i> , 2016 , 6, 13680-13685	3.7	39
66	Hierarchical iridium-based multimetallic alloy with double-core-shell architecture for efficient overall water splitting. <i>Science China Materials</i> , 2020 , 63, 249-257	7.1	39
65	Valence Engineering Dual-Cation and Boron Doping in Pyrite Selenide for Highly Efficient Oxygen Evolution. <i>ACS Nano</i> , 2019 , 13, 11469-11476	16.7	37
64	Catenated metal-organic frameworks: Promising hydrogen purification materials and high hydrogen storage medium with further lithium doping. <i>International Journal of Hydrogen Energy</i> , 2013 , 38, 9811-9818	6.7	33
63	Synergistic Interface-Assisted Electrode-Electrolyte Coupling Toward Advanced Charge Storage. <i>Advanced Materials</i> , 2020 , 32, e2005344	24	31
62	Free-standing graphene oxide membrane with tunable channels for efficient water pollution control. <i>Journal of Hazardous Materials</i> , 2019 , 366, 659-668	12.8	31
61	Improved Transport Properties and Novel Li Diffusion Dynamics in van der Waals C ₂ N/Graphene Heterostructure as Anode Materials for Lithium-Ion Batteries: A First-Principles Investigation. <i>Journal of Physical Chemistry C</i> , 2019 , 123, 3353-3367	3.8	30
60	Hollow spherical Lanthanum oxide coated separator for high electrochemical performance lithium-sulfur batteries. <i>Materials Research Bulletin</i> , 2017 , 94, 104-112	5.1	28
59	Theoretical study of H ₂ adsorption on metal-doped graphene sheets with nitrogen-substituted defects. <i>International Journal of Hydrogen Energy</i> , 2015 , 40, 14154-14162	6.7	28
58	Electronic properties and hydrogen storage application of designed porous nanotubes from a polyphenylene network. <i>International Journal of Hydrogen Energy</i> , 2014 , 39, 18966-18975	6.7	28
57	Three-Phase Boundary in Cross-Coupled Micro-Mesoporous Networks Enabling 3D-Printed and Ionogel-Based Quasi-Solid-State Micro-Supercapacitors. <i>Advanced Materials</i> , 2020 , 32, e2002474	24	27
56	Zn-MOF derived micro/meso porous carbon nanorod for high performance lithium-sulfur battery. <i>RSC Advances</i> , 2016 , 6, 94629-94635	3.7	27
55	Nickel fibers/sulfur composites cathode with enhanced electrochemical performance for rechargeable lithium-sulfur batteries. <i>Electrochimica Acta</i> , 2015 , 176, 442-447	6.7	26
54	Interfacial competition between a borophene-based cathode and electrolyte for the multiple-sulfide immobilization of a lithium sulfur battery. <i>Journal of Materials Chemistry A</i> , 2019 , 7, 7092-7098	13.25	25

53	High rate lithium-sulfur batteries enabled by mesoporous TiO ₂ nanotubes prepared by electrospinning. <i>Materials Research Bulletin</i> , 2017 , 95, 402-408	5.1	24
52	N-substituted defective graphene sheets: promising electrode materials for Na-ion batteries. <i>RSC Advances</i> , 2015 , 5, 17042-17048	3.7	24
51	Amorphization-induced surface electronic states modulation of cobaltous oxide nanosheets for lithium-sulfur batteries. <i>Nature Communications</i> , 2021 , 12, 3102	17.4	24
50	Bilayer graphene with ripples for reverse osmosis desalination. <i>Carbon</i> , 2018 , 136, 21-27	10.4	23
49	Separator modified by Y ₂ O ₃ nanoparticles-Ketjen Black hybrid and its application in lithium-sulfur battery. <i>Journal of Solid State Electrochemistry</i> , 2017 , 21, 3229-3236	2.6	22
48	Tunable band gap and hydrogen adsorption property of a two-dimensional porous polymer by nitrogen substitution. <i>Physical Chemistry Chemical Physics</i> , 2013 , 15, 666-70	3.6	20
47	Nanoporous MoS monolayer as a promising membrane for purifying hydrogen and enriching methane. <i>Journal of Physics Condensed Matter</i> , 2017 , 29, 375201	1.8	20
46	Mesoporous TiO ₂ nanosheet with a large amount of exposed {001} facets as sulfur host for high-performance lithium-sulfur batteries. <i>Journal of Solid State Electrochemistry</i> , 2016 , 20, 2161-2168	2.6	20
45	Highly Active and CO-Tolerant Trimetallic NiPtPd Hollow Nanocrystals as Electrocatalysts for Methanol Electro-oxidation Reaction. <i>ACS Applied Energy Materials</i> , 2019 , 2, 4763-4773	6.1	18
44	Charge redistribution of Co on cobalt (II) oxide surface for enhanced oxygen evolution electrocatalysis. <i>Nano Energy</i> , 2019 , 61, 267-274	17.1	18
43	Lithium decoration of three dimensional boron-doped graphene frameworks for high-capacity hydrogen storage. <i>Applied Physics Letters</i> , 2015 , 106, 063901	3.4	18
42	CeO ₂ nanodots decorated ketjen black for high performance lithium-sulfur batteries. <i>RSC Advances</i> , 2016 , 6, 111190-111196	3.7	18
41	Separator modified with Ketjenblack-In ₂ O ₃ nanoparticles for long cycle-life lithium-sulfur batteries. <i>Journal of Solid State Electrochemistry</i> , 2019 , 23, 645-656	2.6	17
40	Ca-Embedded CN: an efficient adsorbent for CO capture. <i>Physical Chemistry Chemical Physics</i> , 2017 , 19, 28323-28329	3.6	16
39	Strong coupled spinel oxide with N-rGO for high-efficiency ORR/OER bifunctional electrocatalyst of Zn-air batteries. <i>Journal of Energy Chemistry</i> , 2021 , 57, 428-435	12	16
38	Simultaneous Manipulation of O-Doping and Metal Vacancy in Atomically Thin Zn ₁₀ In ₁₆ S ₃₄ Nanosheet Arrays toward Improved Photoelectrochemical Performance. <i>Angewandte Chemie</i> , 2018 , 130, 17124-17129	3.6	16
37	A separator modified by spray-dried hollow spherical cerium oxide and its application in lithium sulfur batteries. <i>RSC Advances</i> , 2016 , 6, 114989-114996	3.7	14
36	Fabrication and Characterization of Non-Woven Carbon Nanofibers as Functional Interlayers for Rechargeable Lithium Sulfur Battery. <i>Journal of Nanoscience and Nanotechnology</i> , 2017 , 17, 1857-1862	1.3	12

35	First-principles study on electronic and optical properties of Cu ₂ ZnSiV I ₄ (VI=S, Se, and Te) quaternary semiconductors. <i>AIP Advances</i> , 2015 , 5, 057111	1.5	12
34	Combining the Advantages of Hollow and One-Dimensional Structures: Balanced Activity and Stability toward Methanol Oxidation Based on the Interface of PtCo Nanochains. <i>ACS Applied Energy Materials</i> , 2019 , 2, 1588-1593	6.1	11
33	Gradient phosphorus-doping engineering and superficial amorphous reconstruction in NiFeO nanoarrays to enhance the oxygen evolution electrocatalysis. <i>Nanoscale</i> , 2020 , 12, 10977-10986	7.7	11
32	Dual-Metal Sites Boosting Polarization of Nitrogen Molecules for Efficient Nitrogen Photofixation. <i>Advanced Science</i> , 2021 , 8, 2100302	13.6	11
31	Non-metallic electronic regulation in CuCo oxy-/thio-spinel as advanced oxygen evolution electrocatalysts. <i>Science China Chemistry</i> , 2021 , 64, 101-108	7.9	11
30	N ₂ Electroreduction to NH ₃ by Selenium Vacancy-Rich ReSe ₂ Catalysis at an Abrupt Interface. <i>Angewandte Chemie</i> , 2020 , 132, 13422-13429	3.6	10
29	Influences of lithium doping and fullerene impregnation on hydrogen storage in metal organic frameworks. <i>Molecular Simulation</i> , 2013 , 39, 968-974	2	10
28	Orbital-regulated interfacial electronic coupling endows Ni ₃ N with superior catalytic surface for hydrogen evolution reaction. <i>Science China Chemistry</i> , 2020 , 63, 1563-1569	7.9	10
27	Immobilisation of sulphur on cathodes of lithium-sulphur batteries via B-doped atomic-layer carbon materials. <i>Physical Chemistry Chemical Physics</i> , 2019 , 21, 10895-10901	3.6	10
26	Spatially Confined Formation of Single Atoms in Highly Porous Carbon Nitride Nanoreactors. <i>ACS Nano</i> , 2021 , 15, 7790-7798	16.7	9
25	Prototypical Study of Double-Layered Cathodes for Aqueous Rechargeable Static Zn-I Batteries. <i>Nano Letters</i> , 2021 , 21, 4129-4135	11.5	8
24	Synthesis of Tellurium Fusiform Nanoarchitectures by Controlled Living Nanowire Modification. <i>Journal of Physical Chemistry C</i> , 2016 , 120, 12305-12312	3.8	8
23	Squeezed metallic droplet with tunable Kubo gap and charge injection in transition metal dichalcogenides. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020 , 117, 6362-6369	11.5	7
22	Behavior of gold-enhanced electrocatalytic performance of NiPtAu hollow nanocrystals for alkaline methanol oxidation. <i>Science China Materials</i> , 2021 , 64, 611-620	7.1	7
21	High-Polarity Fluoroalkyl Ether Electrolyte Enables Solvation-Free Li Transfer for High-Rate Lithium Metal Batteries.. <i>Advanced Science</i> , 2021 , e2104699	13.6	7
20	Surface Atomic Configurations of MnO ₂ Regulating the Immobilization of Sulfides in Lithium Sulfur Battery. <i>Journal of Physical Chemistry C</i> , 2020 , 124, 5565-5573	3.8	6
19	Tuning the Metal Electronic Structure of Anchored Cobalt Phthalocyanine via Dual-Regulator for Efficient CO ₂ Electroreduction and Zn/O ₂ Batteries. <i>Advanced Functional Materials</i> , 2021 , 2110649	15.6	6
18	Insight into tuning the surface and bulk microstructure of perovskite catalyst through control of cation non-stoichiometry. <i>Journal of Catalysis</i> , 2020 , 381, 408-414	7.3	6

17	Accelerating water dissociation kinetics of Ni ₃ N by tuning interfacial orbital coupling. <i>Nano Research</i> , 2021 , 14, 3458-3465	10	6
16	Reversing the Nucleophilicity of Active Sites in CoP Enables Exceptional Hydrogen Evolution Catalysis.. <i>Small</i> , 2022 , e2106870	11	5
15	Electronic structures and transport properties of SnS-SnSe nanoribbon lateral heterostructures. <i>Physical Chemistry Chemical Physics</i> , 2019 , 21, 9296-9301	3.6	4
14	Spinel copper/iron-oxide magnetic nanoparticles with cooperative Cu(I) and Cu(II) sites for enhancing the catalytic transformation of 1,2-propanediol to lactic acid under anaerobic conditions. <i>Catalysis Science and Technology</i> , 2020 , 10, 8094-8107	5.5	4
13	Tailoring the d-Band Center of Double-Perovskite LaCoNiO Nanorods for High Activity in Artificial N Fixation. <i>ACS Applied Materials & Interfaces</i> , 2021 , 13, 13347-13353	9.5	4
12	Self-Organization of Amorphous Carbon Nanocapsules into Diamond Nanocrystals Driven by Self-Nanosopic Excessive Pressure under Moderate Electron Irradiation without External Heating. <i>Small</i> , 2018 , 14, 1702072	11	4
11	Regulating the electronic properties of MoSe ₂ to improve its CO ₂ electrocatalytic reduction performance via atomic doping. <i>New Journal of Chemistry</i> , 2021 , 45, 5350-5356	3.6	4
10	Tuning the Interaction between Ruthenium Single Atoms and the Second Coordination Sphere for Efficient Nitrogen Photofixation. <i>Advanced Functional Materials</i> , 2112452	15.6	3
9	Dual transition-metal atoms doping: an effective route to promote the ORR and OER activity on MoTe ₂ . <i>New Journal of Chemistry</i> , 2021 , 45, 5589-5595	3.6	3
8	Self-reconstruction mediates isolated Pt tailored nanoframes for highly efficient catalysis. <i>Journal of Materials Chemistry A</i> ,	13	1
7	In situ coating amorphous boride on ternary pyrite-type boron sulfide for highly efficient oxygen evolution. <i>Journal of Materials Chemistry A</i> , 2021 , 9, 12283-12290	13	1
6	Short-range order in amorphous nickel oxide nanosheets enables selective and efficient electrochemical hydrogen peroxide production. <i>Cell Reports Physical Science</i> , 2022 , 3, 100788	6.1	1
5	Synergistic interaction of Nb atoms anchored on g-C ₃ N ₄ and H ⁺ promoting high-efficiency nitrogen reduction reaction. <i>Chinese Journal of Catalysis</i> , 2022 , 43, 1139-1147	11.3	1
4	Modulating depth of 1,2-propanediol oxidation over La(III) doped MCM-41 supported binary Pd and Bi nanoparticles for selective production of C ₃ carbonyl compounds. <i>Applied Surface Science</i> , 2021 , 554, 149528	6.7	0
3	CO ₂ electrochemical reduction boosted by the regulated electronic properties of metalloporphyrins through tuning an atomic environment. <i>New Journal of Chemistry</i> , 2021 , 45, 10664-10671	3.6	0
2	Enhancement of Carbon Dioxide Adsorption by Lithium Decorating and Fullerene Encapsulating in Metal-Organic Frameworks. <i>Advanced Materials Research</i> , 2013 , 773, 927-931	0.5	
1	Tuning the Interaction between Ruthenium Single Atoms and the Second Coordination Sphere for Efficient Nitrogen Photofixation (Adv. Funct. Mater. 12/2022). <i>Advanced Functional Materials</i> , 2022 , 32, 2270074	15.6	