Zhenguo Huang

List of Publications by Year
in descending order

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107 papers	4,750 citations	101543 36 h-index	106344 65 g-index
114 all docs	114 docs citations	114 times ranked	5872 citing authors

#	Article	IF	Citations
1	Hydrogen Storage Materials for Mobile and Stationary Applications: Current State of the Art. ChemSusChem, 2015, 8, 2789-2825.	6.8	302
2	Boronâ€“nitrogenâ€“hydrogen (BNH) compounds: recent developments in hydrogen storage, applications in hydrogenation and catalysis, and new syntheses. Energy and Environmental Science, 2012, 5, 9257.	30.8	233
3	Edgeâ€Hydroxylated Boron Nitride Nanosheets as an Effective Additive to Improve the Thermal Response of Hydrogels. Advanced Materials, 2015, 27, 7196-7203.	21.0	227
4	Closing the Loop for Hydrogen Storage: Facile Regeneration of NaBH₄ from its Hydrolytic Product. Angewandte Chemie - International Edition, 2020, 59, 8623-8629.	13.8	205
5	Boron: Its Role in Energyâ€Related Processes and Applications. Angewandte Chemie - International Edition, 2020, 59, 8800-8816.	13.8	186
6	Realizing 6.7 wt% reversible storage of hydrogen at ambient temperature with non-confined ultrafine magnesium hydrides. Energy and Environmental Science, 2021, 14, 2302-2313.	30.8	186
7	Superior sodium-ion storage performance of Co₃O₄@nitrogen-doped carbon: derived from a metalâ€“organic framework. Journal of Materials Chemistry A, 2016, 4, 5428-5435.	10.3	159
8	Boron-Doped Anatase TiO₂ as a High-Performance Anode Material for Sodium-Ion Batteries. ACS Applied Materials & Interfaces, 2016, 8, 16009-16015.	8.0	145
9	Porous Ni nanofibers with enhanced catalytic effect on the hydrogen storage performance of MgH₂. Journal of Materials Chemistry A, 2015, 3, 15843-15848.	10.3	121
10	A novel rechargeable battery with a magnesium anode, a titanium dioxide cathode, and a magnesium borohydride/tetraglyme electrolyte. Chemical Communications, 2015, 51, 2641-2644.	4.1	113
11	Effects of carbon black, graphite and carbon nanotube additives on hydrogen storage properties of magnesium. Journal of Alloys and Compounds, 2007, 427, 94-100.	5.5	107
12	Precipitation synthesis and sintering of yttria nanopowders. Materials Letters, 2004, 58, 2137-2142.	2.6	103
13	Facile synthesis of nanocage Co3O4 for advanced lithium-ion batteries. Journal of Power Sources, 2015, 298, 203-208.	7.8	100
14	High energy density supercapacitors composed of nickel cobalt oxide nanosheets on nanoporous carbon nanoarchitectures. Journal of Materials Chemistry A, 2017, 5, 11834-11839.	10.3	97
15	Boric Acid Assisted Reduction of Graphene Oxide: A Promising Material for Sodium-Ion Batteries. ACS Applied Materials & Interfaces, 2016, 8, 18860-18866.	8.0	96
16	Few-atomic-layered hexagonal boron nitride: CVD growth, characterization, and applications. Materials Today, 2017, 20, 611-628.	14.2	96
17	Functionalised hexagonal boron nitride for energy conversion and storage. Journal of Materials Chemistry A, 2020, 8, 14384-14399.	10.3	96
18	Graphene-wrapped reversible reaction for advanced hydrogen storage. Nano Energy, 2016, 26, 488-495.	16.0	86

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19	A High-Performance Rechargeable Mg²⁺/Li⁺ Hybrid Battery Using One-Dimensional Mesoporous TiO₂(B) Nanoflakes as the Cathode. ACS Applied Materials & Interfaces, 2016, 8, 7111-7117.	8.0	81
20	Niobium doped anatase TiO₂ as an effective anode material for sodium-ion batteries. Journal of Materials Chemistry A, 2015, 3, 22969-22974.	10.3	77
21	A new approach to synthesize MoO₂@C for high-rate lithium ion batteries. Journal of Materials Chemistry A, 2015, 3, 21314-21320.	10.3	72
22	Effects of iron oxide (Fe2O3, Fe3O4) on hydrogen storage properties of Mg-based composites. Journal of Alloys and Compounds, 2006, 422, 299-304.	5.5	70
23	Ammonium Octahydrotriborate (NH4B3H8): New Synthesis, Structure, and Hydrolytic Hydrogen Release. Inorganic Chemistry, 2011, 50, 3738-3742.	4.0	67
24	Synthesis of Large and Few Atomic Layers of Hexagonal Boron Nitride on Melted Copper. Scientific Reports, 2015, 5, 7743.	3.3	63
25	Atomically Thin Hexagonal Boron Nitride Nanofilm for Cu Protection: The Importance of Film Perfection. Advanced Materials, 2017, 29, 1603937.	21.0	63
26	Sodium-difluoro(oxalato)borate (NaDFOB): a new electrolyte salt for Na-ion batteries. Chemical Communications, 2015, 51, 9809-9812.	4.1	61
27	Revealing the chemistry of an anode-passivating electrolyte salt for high rate and stable sodium metal batteries. Journal of Materials Chemistry A, 2018, 6, 12012-12017.	10.3	58
28	Nano-synergy enables highly reversible storage of 9.2Âwt% hydrogen at mild conditions with lithium borohydride. Nano Energy, 2021, 83, 105839.	16.0	46
29	Bor in energiebezogenen Prozessen und Anwendungen. Angewandte Chemie, 2020, 132, 8882-8900.	2.0	45
30	Study of Anion Order/Disorder in RTaN₂O (R = La, Ce, Pr) Perovskite Nitride Oxides. Crystal Growth and Design, 2014, 14, 117-125.	3.0	42
31	Amorphous Dualâ€Layer Coating: Enabling High Liâ€Ion Conductivity of Nonâ€Sintered Garnetâ€Type Solid Electrolyte. Advanced Functional Materials, 2021, 31, 2009692.	14.9	42
32	A Simple and Efficient Way to Synthesize Unsolvated Sodium Octahydrotriborate. Inorganic Chemistry, 2010, 49, 8185-8187.	4.0	41
33	Comprehensive NMR Study of Magnesium Borohydride. Journal of Physical Chemistry C, 2011, 115, 3172-3177.	3.1	39
34	Controllable synthesis of few-layered and hierarchically porous boron nitride nanosheets. Chemical Communications, 2016, 52, 3911-3914.	4.1	39
35	Closing the Loop for Hydrogen Storage: Facile Regeneration of NaBH₄ from its Hydrolytic Product. Angewandte Chemie, 2020, 132, 8701-8707.	2.0	39
36	Hollow-shell structured porous CoSe₂ microspheres encapsulated by MXene nanosheets for advanced lithium storage. Sustainable Energy and Fuels, 2020, 4, 2352-2362.	4.9	39

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37	Li2B12H12Â·7NH3: a new ammine complex for ammonia storage or indirect hydrogen storage. Journal of Materials Chemistry, 2010, 20, 2743.	6.7	38
38	Noticeable improvement in the desorption temperature from graphite in rehydrogenated MgH2/graphite composite. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2007, 447, 180-185.	5.6	36
39	SnSb alloy nanoparticles embedded in N-doped porous carbon nanofibers as a high-capacity anode material for lithium-ion batteries. Journal of Alloys and Compounds, 2019, 777, 775-783.	5.5	35
40	High-capacity hydrogen release through hydrolysis of NaB3H8. International Journal of Hydrogen Energy, 2011, 36, 7038-7042.	7.1	33
41	Recent Development of Lithium Borohydrideâ€Based Materials for Hydrogen Storage. Advanced Energy and Sustainability Research, 2021, 2, 2100073.	5.8	31
42	Electrochemical hydrogen storage properties of nonstoichiometric amorphous MgNi1+xMgNi1+xâ€“carbon composites (x=0.05x=0.05â€“0.3). International Journal of Hydrogen Energy, 2006, 31, 2032-2039.	7.1	30
43	Thermolysis and solid state NMR studies of NaB₃H₈, NH₃B₃H₇, and NH₄B₃H₈. Dalton Transactions, 2013, 42, 701-708.	3.3	30
44	Highly active Fe₃BO₆ as an anode material for sodium-ion batteries. Chemical Communications, 2017, 53, 4698-4701.	4.1	30
45	Anti and gauche conformers of an inorganic butane analogue, NH3BH2NH2BH3. Chemical Communications, 2012, 48, 7943.	4.1	26
46	Fluorescent Carbonâ€•and Oxygenâ€Doped Hexagonal Boron Nitride Powders as Printing Ink for Anticounterfeit Applications. Advanced Optical Materials, 2019, 7, 1901380.	7.3	26
47	Hexagonal Boron Nitride Nanosheets Grown via Chemical Vapor Deposition for Silver Protection. ACS Applied Nano Materials, 2019, 2, 2830-2835.	5.0	26
48	The effect of various cations/anions for MgH2 hydrolysis reaction. Journal of Materials Science and Technology, 2021, 73, 186-192.	10.7	26
49	Guanidinium octahydrotriborate: an ionic liquid with high hydrogen storage capacity. Journal of Materials Chemistry A, 2015, 3, 11411-11416.	10.3	25
50	Synthesis of mesostructured manganese phosphonate and its promising energy storage application. Journal of Materials Chemistry A, 2017, 5, 23259-23266.	10.3	24
51	A new sodium iron phosphate as a stable high-rate cathode material for sodium ion batteries. Nano Research, 2018, 11, 6197-6205.	10.4	24
52	Thermal Decomposition Behavior of Hydrated Magnesium Dodecahydrododecaborates. Journal of Physical Chemistry Letters, 2010, 1, 201-204.	4.6	23
53	Boron nitride for enhanced oxidative dehydrogenation of ethylbenzene. Journal of Energy Chemistry, 2021, 57, 477-484.	12.9	23
54	In Situ Synthesis and Unprecedented Electrochemical Performance of Double Carbon Coated Cross-Linked Co₃O₄. ACS Applied Materials & Interfaces, 2018, 10, 42372-42379.	8.0	22

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55	Carbon- and crack-free growth of hexagonal boron nitride nanosheets and their uncommon stacking order. Nanoscale, 2016, 8, 15926-15933.	5.6	20
56	A nitrogen-doped three-dimensional carbon framework for high performance sodium ion batteries. RSC Advances, 2017, 7, 1588-1592.	3.6	20
57	11B NMR Chemical Shift Predictions via Density Functional Theory and Gauge-Including Atomic Orbital Approach: Applications to Structural Elucidations of Boron-Containing Molecules. ACS Omega, 2019, 4, 12385-12392.	3.5	20
58	Single-pot solvothermal strategy toward support-free nanostructured LiBH4 featuring 12Âwt% reversible hydrogen storage at 400ÂÂ°C. Chemical Engineering Journal, 2022, 428, 132566.	12.7	20
59	An improved synthesis of unsolvated NaB 3 H 8 and its application in preparing Na 2 B 12 H 12. International Journal of Hydrogen Energy, 2016, 41, 15471-15476.	7.1	19
60	Exploration of the Dehydrogenation Pathways of Ammonia Diborane and Diammoniate of Diborane by Molecular Dynamics Simulations Using Reactive Force Fields. Journal of Physical Chemistry A, 2020, 124, 1698-1704.	2.5	19
61	Recent Progress on Two-Dimensional Carbon Materials for Emerging Post-Lithium (Na+, K+, Zn2+) Hybrid Supercapacitors. Polymers, 2021, 13, 2137.	4.5	19
62	Improvement in hydrogen cycling properties of magnesium through added graphite. Materials Letters, 2007, 61, 3163-3166.	2.6	18
63	Boron leaching: Creating vacancy-rich Ni for enhanced hydrogen evolution. Nano Research, 2022, 15, 1868-1873.	10.4	18
64	Electronic Structure and Photocatalytic Water Oxidation Activity of RTiNO₂ (R = Ce, Pr, and Nd) Perovskite Nitride Oxides. Chemistry of Materials, 2015, 27, 2414-2420.	6.7	17
65	Efficient Synthesis of Sodium Borohydride: Balancing Reducing Agents with Intrinsic Hydrogen Source in Hydrated Borax. ACS Sustainable Chemistry and Engineering, 2020, 8, 13449-13458.	6.7	17
66	Application of machine learning algorithms in predicting the photocatalytic degradation of perfluorooctanoic acid. Catalysis Reviews - Science and Engineering, 0, , 1-26.	12.9	17
67	Synthesis, structural analysis, and thermal decomposition studies of [(NH3)2BH2]B3H8. RSC Advances, 2013, 3, 7460.	3.6	16
68	Structural and magnetic properties of RTiNO2 (R=Ce, Pr, Nd) perovskite nitride oxides. Journal of Solid State Chemistry, 2015, 226, 279-285.	2.9	16
69	Capacity enhancement of aqueous borohydride fuels for hydrogen storage in liquids. Journal of Alloys and Compounds, 2015, 645, S196-S199.	5.5	16
70	In situ formation and superior lithium storage properties of tentacle-like ZnO@NC@CNTs composites. Nanoscale Advances, 2019, 1, 1200-1206.	4.6	16
71	Controllable synthesis of 2D TiH2 nanoflakes with superior catalytic activity for low-temperature hydrogen cycling of NaAlH4. Chemical Engineering Journal, 2022, 427, 131546.	12.7	16
72	Progress in the application of surface engineering methods in immobilizing TiO₂ and ZnO coatings for environmental photocatalysis. Catalysis Reviews - Science and Engineering, 2023, 65, 822-873.	12.9	16

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73	Effective synthesis of magnesium borohydride via B-O to B-H bond conversion. Chemical Engineering Journal, 2022, 432, 134322.	12.7	16
74	Ammonium Aminodiboranate: A Longâ€Sought Isomer of Diammoniate of Diborane and Ammonia Borane Dimer. Chemistry - A European Journal, 2016, 22, 7727-7729.	3.3	15
75	Preparation of spherical clusters of metal oxide nanorods and their hydrogen storage behavior. Materials Letters, 2006, 60, 3891-3894.	2.6	14
76	Intermolecular dihydrogen- and hydrogen-bonding interactions in diammoniumcloso-decahydrodecaborate sesquihydrate. Acta Crystallographica Section C: Crystal Structure Communications, 2010, 66, m1-m3.	0.4	13
77	Structure determination of an amorphous compound AlB4H11. Chemical Science, 2012, 3, 3183.	7.4	13
78	Desolvation and Dehydrogenation of Solvated Magnesium Salts of Dodecahydrododecaborate: Relationship between Structure and Thermal Decomposition. Chemistry - A European Journal, 2014, 20, 7325-7333.	3.3	13
79	Regeneration of alkaline metal amidoboranes with high purity. International Journal of Hydrogen Energy, 2016, 41, 407-412.	7.1	13
80	Directional Droplet Propulsion on Gradient Boron Nitride Nanosheet Grid Surface Lubricated with a Vapor Film below the Leidenfrost Temperature. ACS Nano, 2018, 12, 11995-12003.	14.6	13
81	The structural characterization of (NH4)2B10H10 and thermal decomposition studies of (NH4)2B10H10 and (NH4)2B12H12. International Journal of Hydrogen Energy, 2012, 37, 4267-4273.	7.1	12
82	2D boron nanosheet architectonics: opening new territories by smart functionalization. Journal of Materials Chemistry A, 2022, 10, 2736-2750.	10.3	12
83	Electrochemical Hydrogen Storage in Single-Walled Carbon Nanotube Paper. Journal of Nanoscience and Nanotechnology, 2006, 6, 713-718.	0.9	11
84	An Amineâ€“Borane System Featuring Roomâ€Temperature Dehydrogenation and Regeneration. Angewandte Chemie - International Edition, 2021, 60, 11725-11729.	13.8	11
85	Synthesis, Structural Characterization, and Thermal Decomposition Study of Mg(H₂O)₆B₁₀H₁₀·4H₂O. Journal of Physical Chemistry C, 2011, 115, 11793-11802.	3.1	10
86	Few-Layered Boron Nitride Nanosheets for Strengthening Polyurethane Hydrogels. ACS Applied Nano Materials, 2021, 4, 7988-7994.	5.0	10
87	Hydrogels: Edgeâ€Hydroxylated Boron Nitride Nanosheets as an Effective Additive to Improve the Thermal Response of Hydrogels (Adv. Mater. 44/2015). Advanced Materials, 2015, 27, 7247-7247.	21.0	8
88	New synthetic procedure for NaNH2(BH3)2 and evaluation of its hydrogen storage properties. Science China Chemistry, 2015, 58, 169-173.	8.2	8
89	Titanium Hydride Nanoplates Enable 5â€‰wt% of Reversible Hydrogen Storage by Sodium Alanate below 80Â°C. Research, 2021, 2021, 9819176.	5.7	8
90	Effects of milling conditions on hydrogen storage properties of graphite. Journal of Materials Science, 2007, 42, 5437-5441.	3.7	7

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91	Hydroxyl-Functional Groups on Graphene Trigger the Targeted Delivery of Antitumor Drugs. Journal of Biomedical Nanotechnology, 2018, 14, 1420-1429.	1.1	6
92	Artificial 2D Flux Pinning Centers in MgB2 Induced by Graphitic-Carbon Nitride Coated on Boron for Superconductor Applications. ACS Applied Nano Materials, 2019, 2, 5399-5408.	5.0	6
93	Breaking the Passivation: Sodium Borohydride Synthesis by Reacting Hydrated Borax with Aluminum. Chemistry - A European Journal, 2021, 27, 9087-9093.	3.3	6
94	Carbon- and oxygen-doped hexagonal boron nitride for degradation of organic pollutants. Surface Innovations, 2021, 9, 222-230.	2.3	6
95	Structural, Magnetic, and Optical Properties of A3V4(PO4)6 (A = Mg, Mn, Fe, Co, Ni). Inorganic Chemistry, 2016, 55, 5772-5779.	4.0	5
96	Periodically Arranged Arrays of Dendritic Pt Nanospheres Using Cageâ€Type Mesoporous Silica as a Hard Template. Chemistry - an Asian Journal, 2018, 13, 106-110.	3.3	5
97	1,6;2,3-Bis-BN Cyclohexane: Synthesis, Structure, and Hydrogen Release. Journal of the American Chemical Society, 2022, 144, 8434-8438.	13.7	5
98	Thermal stability and hydrogen storage property of Mg1.9Cu0.1Nix (x=1.8, 1.9, 2.0 and 2.1) alloys. Journal of Alloys and Compounds, 2006, 426, 335-340.	5.5	4
99	Solid State Electrolytes: Amorphous Dualâ€Layer Coating: Enabling High Liâ€Ion Conductivity of Nonâ€Sintered Garnetâ€Type Solid Electrolyte (Adv. Funct. Mater. 15/2021). Advanced Functional Materials, 2021, 31, 2170100.	14.9	4
100	DSC study of the effect of milling conditions on the hydrogen storage properties of boron. Journal of Materials Science, 2007, 42, 3985-3989.	3.7	3
101	Iodine Monochloride Facilitated Deglycosylation, Anomerization, and Isomerization of 3-Substituted Thymidine Analogues. Nucleosides, Nucleotides and Nucleic Acids, 2014, 33, 786-799.	1.1	3
102	An Amineâ€“Borane System Featuring Roomâ€Temperature Dehydrogenation and Regeneration. Angewandte Chemie, 2021, 133, 11831-11835.	2.0	3
103	Enhanced electrochemical properties of nonstoichiometric amorphous Mg2Ni1.3 electrodes. Journal of Applied Electrochemistry, 2006, 36, 11-16.	2.9	2
104	Redetermination of di-Î¼-hydrido-hexahydridotetrakis(tetrahydrofuran)dialuminium(III)magnesium(II). Acta Crystallographica Section E: Structure Reports Online, 2010, 66, m575-m575.	0.2	2
105	Editorial: Metal Hydride-Based Energy Storage and Conversion Materials. Frontiers in Chemistry, 2020, 8, 675.	3.6	2
106	Rational design of robust and universal aqueous binders to enable highly stable cyclability of highâ€capacity conversion and alloyâ€type anodes. Energy and Environmental Materials, 0, , .	12.8	2
107	Catalytic Oxidative Dehydrogenation of Light Alkanes over Oxygen Functionalized Hexagonal Boron Nitride. ChemistrySelect, 2022, 7, .	1.5	1