

What is high entropy in energy storage?

In recent years, high-entropy methodologies have garnered significant attention in the field of energy-storage applications, particularly in rechargeable batteries. Specifically, they can impart materials with unique structures and customized properties, thereby showcasing new attributes and application potential.

What is thermochemical energy storage (TCES)?

Thermochemical energy storage (TCES) via the calcium looping (CaL) process is an emerging technology applied in third-generation concentrated solar power plants. A range of CaO-based composites was developed via binary Fe and Mn ions doping of low-cost dolomite for direct solar absorption.

Are high entropy alloy nanoparticles solid solutions uniformly dispersed on a carbon support?

Hu's research group utilized this technique to characterize a series of high-entropy alloy nanoparticles (ranging from five to eight elements, HEA-NPs), revealing that they were solid solutions uniformly dispersed on a carbon support.

Does Na<sub>0.9</sub>Li<sub>0.1</sub> have a good discharge capacity?

By optimizing the material composition, Na<sub>0.9</sub>Li<sub>0.1</sub> delivered an initial specific capacity of 144 mA h g<sup>-1</sup> (2.0–4.3 V vs. Na<sup>+</sup>/Na) and exhibited high discharge capacities from 0.06C to 3C, showcasing good rate performance. After rate capability testing, it achieved 98% capacity retention over 70 cycles at 0.2C.

Who are the authors of energy storage mater?

R. He, L. Yang, Y. Zhang, X. Wang, S. Lee, T. Zhang, L. Li, Z. Liang, J. Chen, J. Li, A. Ostovari Moghaddam, J. Llorca, M. Ibáñez, J. Arbiol, Y. Xu and A. Cabot, Energy Storage Mater., 2023, 58, 287–298 CrossRef . R.

Research interests: (1) Design of novel nanohybrid electrocatalysts and their applications in regenerative H<sub>2</sub>-O<sub>2</sub> fuel cells (2) Two-dimensional (2D) nanomaterials or nanohybrids and their...

Hai'an's Xinlai New Energy 100MW/200MWh grid-side independent energy storage station, developed by Xinlai New Energy, a subsidiary of CITIC Pacific, is set to be connected to the grid by the end of June. ... 2025 "Hai'an Day" ...

The introduction of solar thermal energy and the thermal energy storage are effective methods for reducing the fossil fuel consumption and improving the operation performance of combine cooling ...

CaO-based materials are potential candidates for thermochemical energy storage in calcium looping (CaL) due to their low-cost and large theoretical heat storage capacity. The harsh ...

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In 2016, he joined Prof. Ya-Qian Lan's group at College of Chemistry and Materials Science of Nanjing Normal University. His research interest focuses on the development of molecular-based metal cluster and metal ...

From Mar. 2015 to now, I worked in the School of Chemistry and Materials Science, Nanjing Normal University. In Aug. 2015, I was engaged as the full professor. August 2014 - February 2015

- Jul.2010 B.S. in chemistry, Nanjing Normal University (Advisor: Prof. Yu Chen) Professional Experience ... Jiong Wang develops novel heterogeneous molecular electrocatalysts for critical reactions emerged in energy conversion and storage. The focus is to develop molecularly-tunable catalytic interfaces, and to search for intrinsic ...

Guoyin Zhu #; Tao Chen #; Lei Wang; Lianbo Ma; Yi Hu; Renpeng Chen; Yanrong Wang; Caixing Wang; Wen Yan; Zuoxiu Tie; Jie Liu; Zhong Jin\*; High energy density hybrid lithium-ion capacitor enabled by Co<sub>3</sub>ZnC@N-doped carbon nanopolyhedra anode and microporous carbon cathode, Energy Storage Materials, 2018, 14: 246-252.

Selected by Nanjing University as a test bed to pioneer the university's internationalization initiative, CEAS is taking a systematic approach in its efforts towards building a world-class college. ... Center for Energy Storage Materials and Technologies. Ecomaterials and Renewable Energy Research Center. Photovoltaics Technology Research ...

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Enhanced energy storage of a UV-irradiated three-dimensional nanostructured TiO<sub>2</sub>-Ni(OH)<sub>2</sub> composite film and its electrochemical discharge in the dark Article Sep 2012

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?Nanjing normal university? - ??:313 ?? - ?Integrated CO<sub>2</sub> capture and conversion ... Alkali Metal Nitrates Promoted MgO Composites with High CO<sub>2</sub> Uptake for Thermochemical Energy Storage

" 101 " ( 2024 ) ( 2 018 ) ( 2023 ) "" ( 2 017 ) ( 2 018 )

CaCO<sub>3</sub>/CaO materials possess the advantages of low cost, high energy storage density, and working temperature, which offer these materials the potential to be used in thermochemical energy storage systems for ...

In 2016, he joined Prof. Ya-Qian Lan's group at College of Chemistry and Materials Science of Nanjing Normal University. His research interest focuses on the development of molecular-based metal cluster and metal-organic ...

Molecular-based metal clusters and metal-organic frameworks applied in energy storage and conversion (including CO<sub>2</sub> photo/electroreduction and proton conductivity) Research Projects. ...

- Professor, School of Chemistry, South China Normal University, China RESEARCH INTEREST Design and synthesis of polyoxometalate-based metal-organic frameworks. Application of polyoxometalate-based composite ...

Molecular-based metal clusters and metal-organic frameworks applied in energy storage and conversion (including CO<sub>2</sub> photo/electroreduction and proton conductivity) Research Projects. National Natural Science Foundation of China (No. 21701085) Natural Science Foundation of Jiangsu Province of China (No. BK20171032)

In recent years, high-entropy methodologies have garnered significant attention in the field of energy-storage applications, particularly in rechargeable batteries. Specifically, they can impart materials with unique ...

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Electrochemical energy storage devices, including lithium/sodium ion battery, lithium sulfur battery, ... she is a postdoctoral researcher in Ya-Qian Lan's group in Nanjing Normal University. Her current research interests mainly focus on the structural design and mechanism study of electro-/photo-catalysts for CO<sub>2</sub> reduction reaction ...

Nanjing Normal University ... (CaL) is a promising thermoch em ical energy storage tech nology for the application in the 3rd generation concentrated solar power plants (CSP). Henc e, it is ...

Wu Di Professor Office: B204, Building of College of Engineering and Applied Sciences Tel.: 025-83621215 Email: diwu@nju .cn Research interests: Heterostructures of magnetic and electrical functional oxides for ...

Electrochemical CO<sub>2</sub> reduction to value-added chemicals and fuels using renewable energy represents as a promising strategy for reducing CO<sub>2</sub> emissions and achieving effective energy storage.

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