

In addition, the $\text{Se}_x\text{S}_{1-x-0.3}$ battery based on LYB can be operated at a low temperature of $-30\text{ }^\circ\text{C}$ and a high temperature of $120\text{ }^\circ\text{C}$. Therefore, the improvements in LYB-based solid batteries with Se-S composite cathodes ...

The CuBDC-10-based SSE exhibits outstanding ionic conductivity over a wide temperature range of -40 to $100\text{ }^\circ\text{C}$ ($0.073\text{--}3.68 \times 10^{-3}\text{ S cm}^{-1}$). This work provides strategies for exploring ...

An Integrated Flame-Spray Process for Low-Cost Production of Battery Materials; Chad Xing, Univ. of Missouri; bat272; ... Fluorinated Solvent-Based Electrolytes for Low Temperature Lithium-Ion Batteries; Zhengcheng Zhang, ANL; ... Multi-Objective Design Optimization of 100-kW Non-Rare-Earth or Reduced-Rare Earth Machines; Scott Sudhoff, ...

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Recent new insights are also introduced about the cation solvation structure, which is significant to understand the interfacial behaviors at the low temperature, aiming to guide the design of a low-temperature electrolyte more effectively. For more information, see the Review by J. Zhang, J. Ming et al. on page 15842.

In this introduction, we focus on the role of rare earths in solid conductors for lithium ion, especially in a few most studied systems such as perovskites, garnets, silicates, ...

The sub-molten salt method can realize the efficient recovery of valuable components from minerals under atmospheric pressure at relatively low temperature. ¹⁵ This method has higher reaction efficiency in the extraction and refining of chromium, vanadium, aluminum, titanium and other valuable metals. ¹⁶ In terms of vanadium extraction from ...

These results provide a reference for the preparation of rare earth doped lithium-rich layered cathode materials with high capacity and stability. ... the solution was placed in a muffle furnace preheated at $600\text{ }^\circ\text{C}$ for low-temperature. First-principles calculation of RE-doped LLMOs ... Enhanced cycling stability of La modified $\text{LiNi}_{0.8-x}\text{Co}_x$...

The anion-derived interface chemistry contributes to the dendrite-free Li deposition, a stable cycling of $\text{Li}||\text{NCM523}$ battery with 85 % capacity retention after 150 ...

Lithium-ion batteries are widely used in EVs due to their advantages of low self-discharge rate, high energy

density, and environmental friendliness, etc. [12], [13], [14] spite these advantages, temperature is one of the factors that limit the performance of batteries [15], [16], [17] is well-known that the preferred working temperature of EV ranges from 15 °C to ...

In general, enlarging the baseline energy density and minimizing capacity loss during the charge and discharge process are crucial for enhancing battery performance in low-temperature environments [[7], [8], [9], [10]].Li metal, a promising anode candidate, has garnered increasing attention [11, 12], which has a high theoretical specific capacity of 3860 mA h g⁻¹ ...

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