

Title: Development prospects of antimony energy storage batteries

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Can antimony be used for energy storage?

Research which focused on DFT studies also showed the potential of monolayer Sb for LIB anodes in rechargeable batteries, which could provide relatively strong Li adsorption. In conclusion, antimony is a rare element on the planet, but it offers intriguing features when it comes to the needs of energy storage systems.

Why is antimony a promising material?

From this point of view, antimony acts as a promising material because it has good theoretical capacity, high volumetric capacity, good reactivity with lithium and good electronic conductivities. Recently, there have been many works that focused on the development of antimony as an alternative anode.

Is antimony sulfide a good anode material?

Owing to its high theoretical specific capacity, effective working voltage, and abundant raw materials, antimony sulfide ( $Sb_2S_3$ ) was regarded as one promising anode material for electrochemical energy conversion and storage, especially regarding alkali-ion ( $Li^+$ ,  $Na^+$ , and  $K^+$ ) batteries.

Why is Sb a good antimony anode?

Sb also shows a very high volumetric capacity of  $1890 \text{ Ah L}^{-1}$ , which is equivalent to that of Si and 2.5 times higher than the commercially used graphite anodes. These exciting properties of antimony have garnered great attention from the scientific community in search of alternative anodes with enhanced performance.

In conclusion, antimony is a rare element on the planet, but it offers intriguing features when it comes to the needs of energy storage systems. It possesses great volumetric ...

In conclusion, while the liquid-metal battery promises to revolutionize the energy storage landscape, its future is inextricably linked ...

A significant need for energy storage to accompany widespread adoption of solar power in households, businesses, and industries will also see greater demand for battery technology.

Antimony, as an alloy-type potassium-ion batteries (PIBs) anode material with great development prospects, is expected to become the preferred solution due to its high ...

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