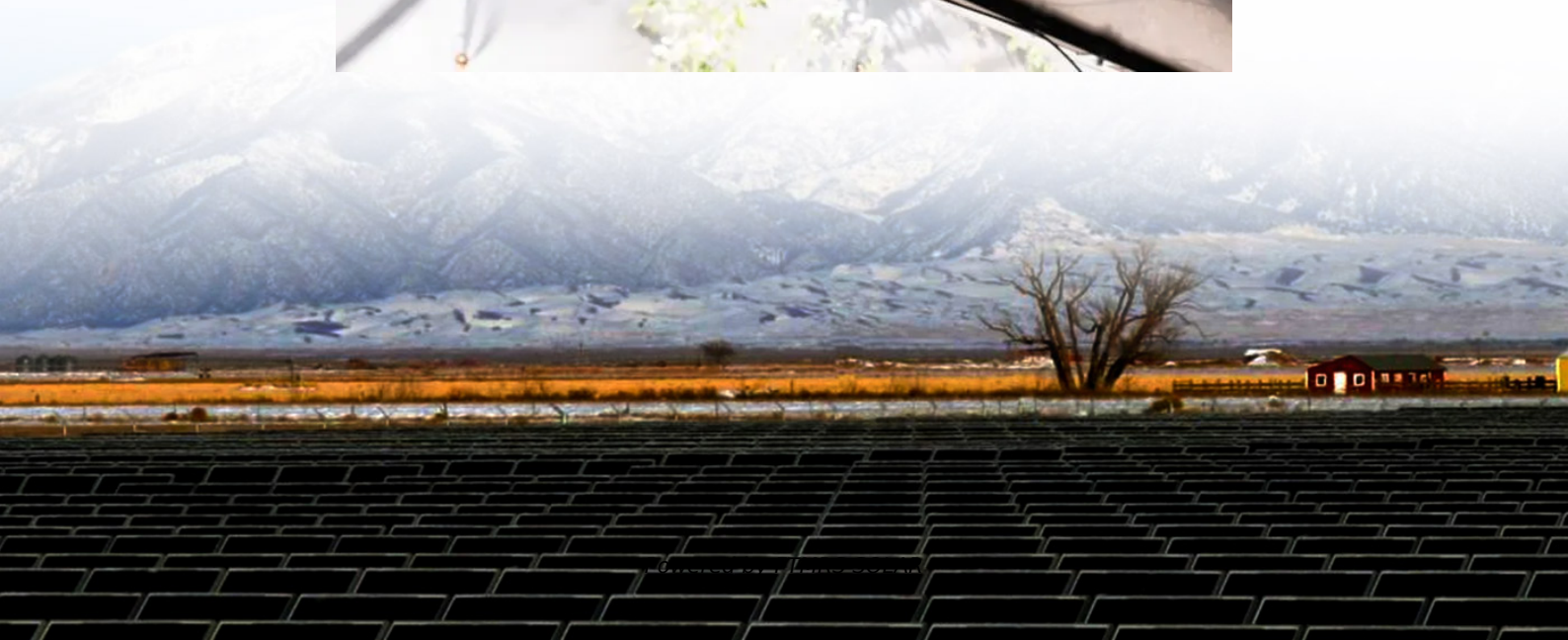


Antimony electrode battery and container system





Overview

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.

What are the characteristics of an antimony electrode?

An antimony electrode has a puckered layered structure which enables it to exhibit high conductivity and reactivity, and reversibility at a moderate current density. Sb also shows a very high volumetric capacity of 1890 Ah L⁻¹, which is equivalent to that of Si and 2.5 times higher than the commercially used graphite anodes .

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.

Can Sb be used as an anode for sodium and potassium ion batteries?

There has been significant effort to use Sb as an anode for sodium and potassium ion batteries. Though it is fundamentally interesting to study these systems, the very high-volume changes associated with these systems (390% for Na, 407% for K) make it difficult to stabilize the electrodes and must be addressed accordingly .



Antimony electrode battery and container system

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Antimony electrode energy storage battery

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Tin Positive Electrode Haomiao Li, Kangli Wang,* Shijie Cheng, and Kai Jiang *

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