

Physically, a nonzero interphase Donnan potential implies that A1-LCD condensates store charge, and devices that store charge are referred to as capacitors. The capacitance is inversely proportional to the Donnan potential. The actual capacitance, which will be governed by the double layer that accumulates at the interface,

Abstract--Hybrid switched capacitor power converters, such as the series-capacitor buck (SCB) converter, have intrinsic L-C resonant dynamics that might influence its control stability and

Stable and high-energy SIC devices are achieved by compensating the interphase and bulk sodium loss of Nb₂O₅ anodes. This work provides new insights into tuning the ICE of sodium-storage electrodes for next-generation and scaled-up applications of SICs.

An oxygen-blocking oriented multifunctional solid-electrolyte interphase as a protective layer for a lithium metal anode in lithium-oxygen batteries. *Energy & Environmental Science*, 2021, 14:...

Prelithiation is a critical step in dual carbon lithium-ion capacitors (LICs) due to the lack of Li⁺ in the system, which needs to be incorporated externally to avoid electrolyte depletion. Several prelithiation techniques have been developed over the years, and recently, dilithium squarate (Li₂C₄O₄) has been reported as an air-stable, easy to synthesize, safe, and ...

Hybrid capacitors, which bear the advantages of secondary batteries and supercapacitors, can deliver high power with a relatively fair amount of energy. However, its kinetic performance, especially at low temperatures, is strongly limited by the battery-type electrode and electrolyte. In this work, Na-ion, which has a lower solvation energy than Li-ion, ...

Hybrid switched capacitor power converters, such as the series-capacitor buck (SCB) converter, have intrinsic LC resonant dynamics that might influence its control stability and transient response. This letter presents a systematic approach to analyzing this intrinsic resonant behavior, which can be classified into output LCoresonance and ...

Interfacial stability of Zn anode was enhanced by redox electrolyte additives. The capacity of Zn-ion hybrid capacitors was increased by redox additives. The regulative and synergistic effects of redox additives were demonstrated. An archive of anthraquinone molecules were showcased as redox additives.

Lithium-ion capacitors (LICs) have garnered significant attention in recent years due to their ability to overcome the shortcomings of lithium-ion batteries (LIBs) and supercapacitors (SCs). Silicon (Si) stands out as a superior anode material for LICs due to its compelling attributes, including a high theoretical specific capacity (4200 mAh/g) and a low de ...

Abstract: In this study, we explore the transparent hafnia-based ferroelectric capacitors (FeCaps), employing transparent indium tin oxide (ITO) as the electrode and quartz as substrate. Through interface engineering, involving a Ti interlayer between the ferroelectric $\text{Hf}_{0.5}\text{Zr}_{0.5}\text{O}_2$ (HZO) film and the electrodes, we not only achieve a substantial enhancement in polarization, but ...

Hybrid switched capacitor power converters, such as the series-capacitor buck (SCB) converter, have intrinsic LC resonant dynamics that might influence its control stability and transient response. This letter presents a systematic approach to analyzing this intrinsic resonant behavior, which can be classified into output LC resonance and interphase LCB resonance based on ...

Abstract: Hybrid switched capacitor power converters, such as the series-capacitor buck (SCB) converter, have intrinsic LC resonant dynamics that might influence its control stability and transient response.

Prelithiation is a critical step in dual carbon lithium-ion capacitors (LICs) due to the lack of Li^+ in the system, which needs to be incorporated externally to avoid electrolyte depletion. Several prelithiation techniques have been developed over the years, and recently, dilithium squarate ($\text{Li}_2\text{C}_4\text{O}_4$) has been reported as an ...

For LP30, a bulk electrolyte capacitance of 6.3×10^{-11} F was calculated (for triglyme a slightly lower value of 1.0×10^{-11} F), leading to the conclusion that the high-frequency process ...

Scientific Reports - Impact and Origin of Interface States in MOS Capacitor with Monolayer MoS_2 and HfO_2 High-k Dielectric. Skip to main content. Thank you for visiting nature . You are using a ...

Download Citation | On Nov 4, 2024, Miguel Granados-Moreno and others published How Does $\text{Li}_2\text{C}_4\text{O}_4$ Prelithiation Additive Influence the Solid Electrolyte Interphase of Dual Carbon Lithium-Ion ...

Web: <https://degotec.fr>