

# Solid-state architecture batteries for enhanced rechargeability and safety

Where can I find solid-state architecture batteries for enhanced rechargeability & safety?

Solid-state Architecture Batteries for Enhanced Rechargeability and Safety (SABERS) Vadim F. Lvovich<sup>1\*</sup>, Rocco P. Viggiano<sup>1</sup>, Donald A. Dornbusch<sup>1</sup>, John W. Connell<sup>2</sup>, Yi Lin<sup>3</sup> 1 - NASA Glenn Research Center, Cleveland, OH 44135 2- NASA Langley Research Center, Hampton, VA 23681 3- National Institute of Aerospace, Norfolk, VA 23503

How does a solid-state battery save energy?

The SABERS team realized solid-state architecture allowed them to change the construction and packaging of their battery to save weight and increase the energy it can store - the size of the battery's bucket from the earlier analogy.

Are solid-state batteries safe?

NASA states in a press release that solid-state batteries do not contain the liquids that can lead to overheating, fire, and loss of charge over time - issues common in lithium-ion batteries.

Can a solid-state battery power a car?

Solid-state batteries from SABERS have an energy density of 500 watt-hours per kilogram, which is double that of a traditional electric car battery. [It should be noted that Samsung also has a solid-state battery with a high energy density.]

What is NASA doing to improve battery technology?

Their work - part of NASA's commitment to sustainable aviation - seeks to improve battery technology through investigating the use of solid-state batteries for aviation applications such as electric propelled aircraft and Advanced Air Mobility.

Can solid-state batteries power electric aircraft?

Researchers at NASA are working on advanced solid-state batteries that can potentially power electric aircraft. Follow us on Google News!

Work taking place at NASA Glenn Research Center in Cleveland, Ohio, by an engineering team lead by Dr. Rocco Viggiano, is aiming to produce batteries that are powerful, light, fast to charge, scalable to any ...

A solid-state electrolyte will be used as a safe, non-flammable replacement to the highly flammable liquid organic electrolytes currently used in SOA lithium-ion batteries. This solid ...

NASA????????2021?4?,??NASA????????????????(Solid-state Architecture Batteries for Enhanced Rechargeability and Safety,"SABERS")????????????????

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SABERS (Solid-state Architecture Batteries for Enhanced Rechargeability and Safety) is NASA's approach to making batteries lighter, safer, hold more energy, and (we hope) be ready soon for flight. In fact, SABERS batteries are intended ...

2021?4?,NASA????????????????(e Solid-state Architecture Batteries for Enhanced Rechargeability and Safety,"SABERS")?????? ...

The SABERS concept proposes a battery that meets all five key performance criteria through development of a solid-state architecture battery utilizing high energy density ...

Content SABERS, as this portfolio of innovations is named, refers to Solid-state Architecture Batteries for Enhanced Rechargeability and Safety. Developed jointly at NASA's ...

????(NASA)????????"????????????????"(SABERS:Solid-state Architecture Batteries for Enhanced Rechargeability and Safety)? ...

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By contrast, NASA's SABERS (Solid-state Architecture Batteries for Enhanced Rechargeability and Safety) project is developing experimental solid-state battery packs that do not suffer from these ...

Abstract All-solid-state batteries (ASSBs) offer enhanced energy density and improved safety through the utilization of solid electrolytes. Among these, halide-based ...

4 ???&#0183; All-solid-state lithium batteries (ASSLBs) have garnered significant attention as a next-generation energy storage technology, providing superior safety, enhanced stability, and high ...

This innovation, spearheaded by the agency's Solid-state Architecture Batteries for Enhanced Rechargeability and Safety (SABERS) project, addresses critical challenges in ...

The demand for advanced battery technology is growing rapidly, driven by the rise of electric vehicles (EVs), renewable energy systems, and portable devices. Solid-state batteries (SSBs) are emerging as a game ...

Now, after a few years of successful work by a NASA activity called the Solid-state Architecture Batteries for Enhanced Rechargeability and Safety (SABERS) the research ...

This presentation will show the results of these studies and demonstrate a feasible path for solid-state cells with a specific energy greater than 400 Wh/kg to enable ...

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