



Battery breakthrough in wireless charging technology

Stanford's breakthrough in lithium metal battery technology promises to extend EV ranges and battery life through a simple resting protocol, enhancing commercial viability. Next-generation electric vehicles could run on lithium metal batteries that go 500 to 700 miles on a single charge, twice the range of conventional lithium-ion batteries in EVs today.

The achievement surpasses ORNL's recent 100-kW wireless charging demonstration and is another breakthrough for fast wireless charging. "In the past three months, the ORNL vehicle power electronics and electric drives research teams have set impressive world records for wireless charging," said Lee Slezak, DOE's Vehicle ...

This corresponds to a loss of a mere ten kW or 2% of the theoretical maximum charging power. Liu is sanguine about this new wireless charging technology. He doesn't think it will replace how we ...

This breakthrough technology could potentially make EVs more affordable by eliminating the need for high-range batteries. Implications for EV Adoption: The widespread adoption of fast-charging battery technology could lead to the use of smaller batteries with less than 500km of range in EVs, reducing costs and increasing affordability. However ...

A team of researchers at Oak Ridge National Laboratory demonstrated that a light-duty passenger electric vehicle can be wirelessly charged at 100-kW with 96% efficiency using polyphase electromagnetic ...

Japanese technology company Asahi Kasei announced that it has successfully achieved proof of concept (POC) of lithium-ion batteries (LIBs) using its proprietary high ionic conductive electrolyte. This technological breakthrough allows for increased power output even at low temperatures and improved durability at high temperatures -- both pressing issues of ...

Farasis Energy Unveils Breakthrough in Million-Mile Battery Technology . PR Newswire . Sun, Jul 21, 2024, 9:13 PM 3 min read. GANZHOU, China, July 22, 2024 /PRNewswire/ -- Farasis Energy proudly ...

Each day, more people are requesting wireless charging technology. EV batteries do not need to be directly connected to wireless charging methods, which are less expensive than cable charging technologies. Instead, by converting the grid-frequency AC (50/60 Hz) to a high-frequency AC (up to 600 kHz), which is then delivered via a transmitter pad and ...

Researchers are taking wireless charging seriously, and one U.S. lab has achieved a breakthrough: 96% efficiency in a 100kW wireless charging test.

Even though EV usage is currently increasing, a technology breakthrough would be required to overcome



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battery related drawbacks. Wireless power transfer provides ...

This groundbreaking achievement in wireless charging technology promises to make electric vehicle charging faster, more efficient, and more convenient, potentially accelerating the adoption of...

Under the premise that there is no major breakthrough in Li-ion battery technology and performance is not significantly improved, the key to improving the service life of the battery pack is to ensure the consistency between battery cells as much as possible. (2) $s = \frac{V_i - V}{2n}$, $V_a = s / V$; On the basis of the open-circuit voltage of the battery, battery ...

Wireless charging has the potential to be the go-to power solution for implantable medical devices as technology innovation makes them smaller and smarter . Deep tech; Industries; Insights; Careers; About us; Contact; Global EN. ; Deep tech. 5G and wireless connectivity; Advanced computing; AI and data analytics; Biotechnology; Digital ...

Breakthrough in Battery Technology: The Future of Inexpensive, Fast-Charging, High-Capacity Batteries. by Shivam Kashyap July 5, 2024. written by Shivam Kashyap July 5, 2024. 190. The Aiiso Yufeng Li Family Department of Chemical and Molecular Engineering at the University of California San Diego and the UChicago Pritzker School of Molecular ...

A breakthrough in electric vehicle battery design has enabled a 10-minute charge time for a typical EV battery. The record-breaking combination of a shorter charge time and more energy acquired for longer ...

A wireless EV charging system built by Oak Ridge National Laboratory (ORNL) performed well in recent tests, bringing the technology one step closer to becoming a reality for consumers.

CATL said the new EV battery is the world's first with 4C ultra-fast charging and +620 miles (1,000 km) CLTC long-range capabilities. The new battery can gain a one-km range in as little as one ...

The polyphase system's breakthrough in delivering 270 kW wirelessly marks a significant leap from existing wireless charging capabilities, typically limited to 20 kW, and sets a new standard for fast, efficient, and ...

No cables, no wireless charging pads. Just wireless power beamed through the air by a router, much like Wi-Fi. The potential benefits for medical devices, sensors, cameras, and a host of other ...

The achievement surpasses ORNL's recent 100-kW wireless charging demonstration and is another breakthrough for fast wireless charging.

For those who complain about wireless efficiency before reading the article: "researchers wirelessly charged a light-duty passenger EV at 100 kW with 96% efficiency - a new milestone".



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A nationwide electric vehicle charging network is still in the works, but some automakers are experimenting with what could be the next big thing: wireless EV charging.. The Society of Automotive ...

Elon Musk's company acquired German wireless charging start-up Wiferion last year and sold it within months. But it reportedly kept some of its engineers. American start-up Witricity, which deploys several wireless charging stations in China for commercial fleets, has already showcased its technology by retrofitting a Ford Mustang Mach-E.

"Our technology reaches power densities 8-10 times higher than conventional coil technology and can increase battery charge state by 50% in under 20 minutes. This is a breakthrough achievement and opens the door to fast and efficient wireless charging for passenger electric vehicles."

"With wireless technology you wouldn't have to remember to plug in your vehicle at home, and it's always topped off. You just park it in the garage and it's done. The same with charging pads at workplaces or at extreme-fast wireless charging stations." "Now we want to take it a step further. What if you have an EV and never have to ...

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Scientists at the Oak Ridge National Laboratory (ORNL) have accomplished a remarkable feat: wirelessly charging an EV with a 100 kW charger, achieving a 50% battery charge in just 20 minutes.

This 14-inch wireless charging device works at a rate of 100 kW, scientists claim, meaning it's up to 10 times as fast as some of the best commercially available alternatives.

VW Working On Wireless Charging Breakthrough With ORNL, UT It's able to wirelessly charge with an efficiency of 98%. Nov 1, 2021 at 10:05am ET. Andrei Nedelea. By: Andrei Nedelea. Minimizing ...

A decade ago wireless or inductive charging for EVs was seen as a technology that would be very common in the real world in the 2020s. All owners would have to do to charge their cars at home or ...

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