Unlimited current for communication power battery charging

What is a large/small charging current?
It shows that the magnitude of the designed charging current is automatically adjusted to drive the battery's state to different specified values. The large/small charging current is designed for the cases with long/short charging duration,which makes the charger more intelligent.

How efficient is a 230-w charging system?
However,a 230-W experimental platform is built to verify the performance of the proposed system,and then,experimental results demonstrate a CP output with a maximum efficiency of 89.8%,and also,the efficiency can be maintained at the optimal level throughout the charging profile.

What is battery charging strategy?
The most widely adopted battery charging strategy is the constant current-constant voltage(CC-CV) method ,in which a fixed constant charging current is provided until the battery's terminal voltage rises to a specified value and then the mode is switched to a constant voltage charging until the battery is fully charged.

How to charge a Li-ion battery?
The pulse charging of the Li-ion battery on the second side is accomplished through phase-shifted control of the primary side high-frequency inverter. The control loops for pulse charging must be developed using the IPT transfer functions, according to the implementation technique.

Can user-involved Wireless battery charging control be regulated automatically?
In this study,based upon a wireless charger with double-sided LCC compensation topology,a user-involved wireless battery charging control strategy is proposed,bringing the benefits that suitable charging current can be regulated automaticallyto accomplish the user demands.

How does a wireless battery charging strategy work?
In the inner loop, a fuzzy proportion-integration (PI) control algorithm is proposed to regulate the wireless charger to provide the charging current designed by the out loop. Finally, numerous real-time results are provided to verify the proposed wireless battery charging strategy.

To improve the battery-charging rate while alleviating its aging problem, it is important to vitalize constant power (CP) charging with respect to the traditional constant current charging. Herein, ...

This article classifies, describes, and critically compares different compensation schemes, converter topologies, control methods, and coil structures of wireless power transfer systems for electric vehicle battery ...

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This article classifies, describes, and critically compares different compensation schemes, converter topologies, control methods, and coil structures of wireless power transfer systems for electric vehicle battery charging, focusing on inductive power transfer. It outlines a path from the conception of the technology to the modern and cutting ...

To improve the battery-charging rate while alleviating its aging problem, it is important to vitalize constant power (CP) charging with respect to the traditional constant current charging. Herein, a single-stage inductive-power-transfer converter is proposed for both wireless CP charging and optimal transfer efficiency.

This study presents a user-involved wireless battery charging approach for electric vehicles, which enables the battery to reach the user-specified state by regulating the charging current provided by a wireless charger with double-sided inductor-capacitor-capacitor compensation topology.

This study presents an investigation into the use of primary-side electrical information to achieve constant current/voltage (CC/CV) charging for the inductor-capacitor-inductor-series compensated wireless power ...

2 ???· By the end of 2030, a large electric vehicle (EV) adoption on the roads will overburden the power grid for EV charging. Therefore, in order to divert EV loads from the grid, a grid-free EV battery charger is proposed in this article. The charger consists of a photovoltaic (PV) panel as a source with parallel sets of four-switch-buck-boost (FSBB) converters and Lithium-ion (Li-ion) ...

In this paper, a multi-load constant current charging technology for wireless charging system is proposed, which combines the primary side control and the secondary side control to achieve quick charge for multiple load batteries at the same time. The system reduces the influence of interference factors by designing the primary side ...

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In Wireless Power Transfer (WPT), the constant current-constant voltage (CC-CV) technique has been considered a standard strategy for charging lithium-ion (Li-ion) batteries.

A simple receiver (Rx) will reduce the failure rate and system maintenance costs. This article proposes a D-WPT system with battery state of charge (SOC) perception at the transmitter (Tx) and adaptive adjustment of constant voltage (CV) and constant current (CC) output.

In this paper, the LCC-LCC/S reconfigurable topology is proposed to realize the CC-to-CV transition for multiple battery loads. An LCC topology is designed on the primary side to achieve a constant current (0.362A) flowing through the transmitting coil to enable ...

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