

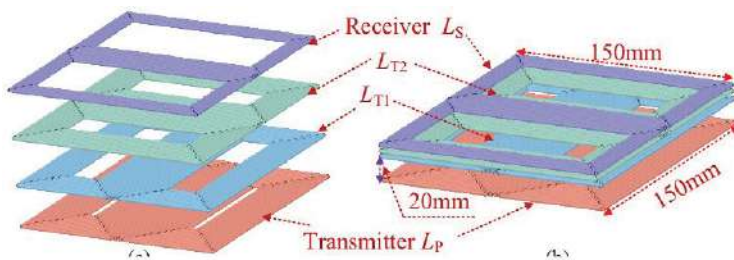
Intermediate Resonant Circuit Based Wireless Charging Technology

一種基於新型中繼諧振電路的無線充電技術

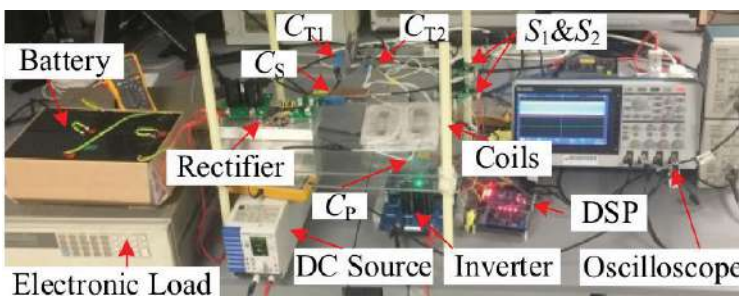
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Special features 技術特點

- ▶ The size of the charger is more compact by using the proposed magnetic coupling structure 利用磁力耦合結構設計，減少充電器的尺寸
- ▶ Since the energy conversion efficiency is higher, it is a way of promoting green environment for the society 能量轉換效率較高



Existing wireless charging technologies for electric vehicles required complex sensors, closed-loop controllers and communications facilities which resulted for bulky in size. A new wireless charging technology based on a novel reconfigurable intermediate resonant circuit is design to reduce complexity and increase efficiency and reliability. Based on a new magnetic coupling structure, the system is able to achieve wireless load-independent constant current charging and constant voltage charging without the need of communication between the receiver and the transmitter side. This new technology can stimulate the large-scale deployment of electric vehicles with wireless charging. Also, it is applicable for mobile items like electric bicycles and smart phones.



傳統的電動車無線充電需要使用複合傳感器，閉環控制器和通信設備，往往導致其充電結構體積過大。理大團隊開發了一種基於新型中繼諧振電路的無線充電技術，致力於提高充電的安全性，可靠性和效率。此技術可應用於負載無關的恆流充電模式和恆壓充電模式，不需要發射器和接收器兩者之間的數據傳輸，同時其結構體積較為細小。此技術將可應用於電動汽車、電動單車、智能手機的無線充電。



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