Havana Field Research Folding Container with Two-Way Charging

How efficient is the folding wireless charging of a UAV?
The folding wireless charger of the UAV was designed to operate at 138.1 kHz and deliver an output power of 100 W. In the aligned condition,wireless charging efficiency reached 97.66%using the proposed folding coil design. Furthermore,it was achieved with over 85.48% efficiency up to 10 cm misalignment.

Can a foldable coil and charge station be used for wireless charging?
The most suitable wireless charging technique for UAVs is inductive power transfer (IPT). In this paper,a novel foldable coil and charge station design is proposedfor the wireless charging of UAVs. IPT is provided by receiver and transmitter coils placed on the drone legs and the charging station,respectively.

How does a folding wireless charge system work?
The transmitter's folding windings provide both alignments for the UAV during landing and increase the magnetic coupling. A folding wireless charge system of the UAV is designed for 100 W output power at a 138.1 kHz frequency. The misalignment tolerance of the proposed design in the vertical axis is examined.

How does a folding WPT charging station work?
The folding WPT charging station and the UAV. The AC grid voltage is converted to DC with a rectifier. DC voltage is changed to the required DC voltage level by the DC/DC converter and applied to the inverter. DC voltage is converted to square wave AC voltage at the desired resonance frequency by the half-bridge inverter.

This paper presents an octagonal prism-based wireless charging container with multiple folding coils winding equidistantly around the surface of the container.

Unmanned aerial vehicles (UAV) have been used in many fields nowadays. In long-term applications, batteries need to be constantly changed by someone due to short ...

Under such circumstances, this paper proposed a novel designed system for cubic wireless charging containers to achieve both simple coil structure and uniform magnetic field ...

This paper proposes three different shapes of wireless charging containers (i.e. quadrangular prism, octagonal prism, and ...

This article introduces a spatial wireless charging system featuring a cubic transmitter (Tx) designed for strong and uniform magnetic field distribution inside the Tx ...

Synopsis This invention introduces a cubic wireless charger with a novel coil design that enables omnidirectional wireless charging container using only two wires. By optimising magnetic field distribution, ...

Request PDF | On May 17, 2024, Kaiyuan Wang and others published Octagonal Prism-Based Wireless Charging Container with Multiple Folded Coils for Even Magnetic Flux Distribution ...

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