

Wireless Battery Charger with Adaptive Rapid-Charging Algorithm

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Abstract : Wireless battery charger with adaptive rapid charging algorithm is proposed. The proposed wireless charger adopts voltage regulation technique to reduce the number of power conversion steps. Moreover, based on battery models, an adaptive rapid charging algorithm for Li-ion batteries is obtained. Rapid-charging performance with the proposed wireless battery charger and the proposed rapid charging algorithm has been experimentally verified to show more than 70% charging time reduction compared to conventional constant-current constant-voltage (CC-CV) charging without the degradation of battery lifetime.

Keywords : wireless, battery charger, adaptive, rapid-charging

Conference Title : ICEM 2016 : International Conference on Energy and Management

Conference Location : Barcelona, Spain

Conference Dates : August 11-12, 2016