

Wireless Vehicle Charging Station with Solar Panel

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Abstract: *Wireless Power Transfer (WPT) systems transfer electric energy from a source to a load without any wired connection. WPTs are attractive for many industrial applications because of their advantages compared to the wired counterpart, such as no exposed wires, ease of charging, and fearless transmission of power in adverse environmental conditions. Adoption of WPTs to charge the on-board batteries of an electric vehicle (EV) has got attention from some companies, and efforts are being made for development and improvement of the various associated topologies. WPT is achieved through the affordable inductive coupling between two coils termed as transmitter and receiver coil. In EV charging applications, transmitter coils are buried in the road and receiver coils are placed in the vehicle. Inductive WPT of resonant type is commonly used for medium-high power transfer applications like EV charging because it exhibits a greater efficiency. This energy is then stored in the vehicle's battery for later use*

Keywords: Wireless Power Transfer

REFERENCES

- [1]. Julian Timpner, Lars Wolf, "A Back-end System for an Autonomous Parking and Charging System for Electrical Vehicles", International Electrical Vehicle Conference Greenville, SC, USA IEEE 2012
- [2]. Manjusha Patil, Vasant N. Bhojge, "Wireless Sensor Network and RFID for Smart Parking System", International Journal of Engineering Technology and Advanced Engineering, Volume 3, Issue 4, April 2013, IJETAE
- [3]. Mehmet Sukru Kuran, Aline Carnerio Viana, Luigi Iannone, Daniel Kofman, Gregory Mermound, Jean P. Vasseur.
- [4]. Abhirup Khanna, Rishi Anand, "IoT based Smart Parking System", International Conference on Internet of Things and Applications (IOTA), Maharashtra Institute of Technology, Pune, India, pp. 266- 270, 22 Jan-24 Jan, 2016. IEEE
- [5]. Aniket Gupta, Sujata Kulkarni, et al, "Smart Car Parking Management System Using IoT", American Journal of Science, Engineering and Technology. Vol. 2, pp. 112-119, November 30, 2017.
- [6]. Adilet Sultanbek, Auyez Khassenov, Yerassyl Kanapyanov, Madina Kenzhegaliyeva, Mehdi Nagheri, "Intelligent Wireless Charging Station for Electrical Vehicles", International Siberian Conference on Control and Communication, 2017, IEEE
- [7]. Nazish Fatima, Akshaya Natlkar, Pratiksha Jagtap, Snehl Chooudhari, "IoT Based Smart Car Parking System for Smart Cities", International Journal of Advance Research, Ideas and Innovations In Technology, Vol. 4, Issue 1, 2018 ISSN
- [8]. Zhe Wei, Yue Li, Yongmin Zhang, Lin Cal, "Intelligent Parking Garage EV Charging Scheduling Considering Battery Charging Characteristic", IEEE Transaction on Industrial Electronics, Vol 65, 3 March 2018
- [9]. Chirag Panchal, et al, "Review of static and dynamic wireless electric vehicle charging system", Engineering Science and Technology, an International Journal, pp.922-937, 21 June 2018. [10] Morris Kesler, "Wireless Charging of Electrical Vehicles"