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Wireless Charging System

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Abstract: *In order to reduce pressure on fossil fuel and reduce environmental pollution, the use of electric vehicles (EV) is rapidly increasing, instead of combustion engine vehicles. The main concern issue of the EV customers is being addressed through various charging methods. The key difficulty in implementation of EV is arrangement of charging infrastructure. The wireless charging system (WCS) is a favourite option in the growing EV market. In this paper, a WCS for charging electric vehicles is developed via inductively coupled power transfer technology. The performance of the system is verified by the simulation results. Plug-in electric vehicles (PEVs) are growing in popularity in developed countries in an attempt to overcome the problems of pollution, depleting natural oil and fossil fuel reserves and rising petrol costs. In addition, automotive industries are facing increasing community pressure and governmental regulations to reduce emissions and adopt cleaner, more sustainable technologies such as PEVs. However, accepting this new technology depends primarily on the economic aspects for individuals and the development of adequate PEV technologies. The reliability and dependability of the new vehicles (PEVs) are considered the main public concerns due to range anxiety. The limited driving range of PEVs makes public charging a requirement for long-distance trips, and therefore, the availability of convenient and fast charging infrastructure is a crucial factor in bolstering the adoption of PEVs. The goal of the work presented in this thesis was to address the challenges associated with implementing electric vehicle fast charging stations (FCSs) in distribution system.*

Keywords: Electric Vehicle, Battery, MATLAB, Simulation, Charger, Wireless, etc.

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