

Data Driven Based Energy Management Model for EVS Wireless Charging System

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Abstract

Wireless charging, crucial in the pursuit of a sustainable future. However, the increasing reliance on traditional power generators to charge electric vehicles is placing an increasing burden on infrastructure and exacerbating the challenges of energy production. This pressing issue has intensified the need for alternative energy sources that can ease this pressure. This study proposes to design and implement a new power framework that utilizes the energy generated by the movement of cars for wireless charging. By integrating specialised chips into road infrastructure, we aim to capture the piezoelectric energy produced by moving cars and convert it into electrical energy to charge electric vehicles or for use in other areas such as running lightings on roads or homes. We will focus on the optimisation model through operations research. Which we determine the distribution of energy according to the needs of each type to obtain a quantity of energy at the lowest cost and reduce carbon emissions.

Keywords

Wireless Charging, Optimization model, Operations research, Distributed energy resource.