

Solar Based Wireless Electric Vehicle Charging System

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Abstract: In today's world there are more outcomes in environmental change due to the overutilization of petroleum products in this manner prompting a genuine effect on the climate? So there is a need for a substitute answer for lessen the consumption of such non – sustainable assets. One such exertion made in the field of Freeways is the advancement of "Solar Freeways" which can be an elective arrangement. Sun oriented streets consolidate various arrangements in one – it can assist us with improving the creation of power utilizing sun based boards, to give a computerized stage to our future country's ventures like Smart Cities, and to work with the arising electric vehicles that supplant the petroleum driven vehicles and substantially more.

Motivated by the fact that there are numerous amount of clean and sustainable energy we receive from roadways, the following study puts forward some of the event and application of an innovative charging method for the renewable energy driven electric cars, buses by using the roadway and also implementation of revolutionary nanotechnology along with the latest best in the house power electronics and power system analysis tools. A small scale prototype model was made by our team to attest the working of smart inductive charging process. Our project team was successful to improve the working of the model by improving the use of the preinstalled solar panels and also implement its use on the very concept we are trying to improve.

On the vehicle, there will be the use of coils which are experimentally made for the flow of charges that are needed to provide charge to a moving electric vehicle (EV). The detailed strategy is presented in this report. Electric vehicles have now hit the road worldwide and are slowly growing in numbers. Apart from environmental benefits electric vehicles have also proven helpful in reducing cost of travel by replacing fuel by electricity which is way cheaper. Well here we develop an EV charging system that solves with a unique innovative solution. This EV charging of vehicles without any wires, No need of stop for charging, vehicle charges while moving, Solar power for keeping the charging system going, No external power supply needed. The system makes use of a solar panel, battery, transformer, regulator circuitry, copper coils, AC to DC converter, Atmega controller and LCD display to develop the system. The system demonstrates how electric vehicles can be charged while moving on the road, eliminating the need to stop for charging. Thus the system demonstrates a solar powered wireless charging system for electric vehicles that can be integrated in the road.

Keywords: Battery, Micro controller, Transformer, Microprocessor, Electric Vehicle

