Wireless charging system for electric vehicles

Introduction: Electric vehicles (EV) are becoming more efficient and cost competitive given the desire to push away from petrol- and diesel-powered vehicles to help provide cleaner environment. Wireless charging technology could make EVs even more reliable on a day-to-day basis, especially for those who see cables and connectors that need to be replaced every few years as a hassle. Wireless inductive charging uses the principle of electromagnetic induction to transmit electrical power through the air as a magnetic field.

The objective of this project: is to develop an electric vehicle charging system that utilizes solar panel, battery, AC/DC converters, regulator circuitry, copper coils, and controller. The solar panel will be used to power the battery through a controller.

Some of the project tasks include:

- Simulation and design of transmitter and receiver coils
- Battery and solar panel selection
- Simulation and development of power regulatory circuit
- Build solar power control module
- Program AVR controller

Requirements: Knowledge of electromagnetic theory and AVR programming, understanding of converters and motor control

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