

# Solar Wireless Electric Vehicle charging System

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**Abstract:** *The design of a solar charging station for electric cars is thoroughly explained, along with how it solves the two main problems of fuel and pollution. There are more and more electric cars on the roads today. Electric cars have proven to be effective in lessening the travel cost by switching from fuel to EV's, which is much less expensive, with the environmental benefits. However, in this case, we are developing a charging system for electric cars that provides a unique, solution. There are no cables involved, solar energy is used to maintain the charging system, and no external power source is required. The vehicles can be charged while they are moving. The development of the system involved the use of LCD Displays, batteries, solar grid, control circuits, primary and secondary copper coils, AC to DC converters, Atmega processors and inverters. The technique demonstrates how electric automobiles can be recharged while being driven, eliminating the need to stop for recharging. The technology demonstrates how an integrated wireless solar charging system for EV is used.*

**Keywords:** Electric vehicle, EV charging, solar power, copper coils, Atmega controller

## REFERENCES

- [1]. J. C. Ferreira, V. Monteiro and J. L. Afonso "Smart Electric Vehicle Charging System" IEEE Intelligent Vehicles Symposium (IV), 2011, pp.758-763
- [2]. P. Venugopal, P. Bauer, G. R. C. Mouli "Future of Electric Vehicle Charging" International Conference on signal processing, Communication, Power and Embedded system, 2016, pp. 441-44
- [3]. S. R. Kutwad, S. Gaur "Wireless Charging System for Electric Vehicle" International Symposium on Power Electronics (Ee), 2017, pp. 1-7
- [4]. B. Revathi, A. Ramesh, S. Sivanandhan "Solar Charger for Electric Vehicles" International Conference on Emerging Trends and Innovation In Engineering And Technological Research (ICETIETR), 2018, pp.1-4.
- [5]. K. Anu, J. Elzalet, A. Akila "Charging Station for E-Vehicle using Solar with IOT" International Conference on Advanced Computing & Communication System (ICACCS), 2019, pp. 785-791.
- [6]. W. Wenbin et al., "Development of Wireless Charging System for Electric Vehicles Based on Adjustable DC Power Module" IEEE Conference on Industrial Electronics and Applications (ICIEA), 2019, pp. 1419-1424
- [7]. P. Lopes, P. Costa and S. Pinto "Wireless Power Charging on Electric Vehicles" International Young Engineers Forum (YEF-ECE), 2021, pp. 132-137.
- [8]. X. Liang, M. S. A. Chowdhury "Emerging Wireless Charging Systems for Electric Vehicles – Achieving High Power Transfer Efficiency" IEEE Industry Applications Society Annual Meeting (IAS), 2018, pp. 1-14.
- [9]. M. A. Al Mamun, M. Istiak and K. A. Al Mamun "Design and Implementation of A Wireless Charging System for Electric Vehicles" IEEE Region 10 Symposium (TENSYP), 2020, pp. 504-507.
- [10]. N. Ramesh, V. Vanitha "Solar Powered Battery Charging System with Maximum Power Point Tracking" International Conference on Electrical Energy Systems (ICEES), 2018, pp. 364-368