

Performance of Induction Motor and BLDC Motor and Design of Induction Motor driven Solar Electric Vehicle (IM-SEV)

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Abstract: *The only thing pushing people toward electric automobiles is the rising cost of fossil fuels, which are slowly vanishing from nature or are likely to be and creates noise and pollutants. The several challenges that researchers are encountering with things like initial cost, battery life, and in certain cases how far an electric vehicle can drive are a focus of this research article. Although most of the electric vehicle producers employ BLDC motors, their availability is limited, and they are only appropriate for the smaller size of urban or sophisticated electric vehicles which rarely bear the heavy load and rugged situations. However, induction motors are currently being employed in heavy-duty three- and four-wheel vehicles. The author of this research article looked into and evaluated a significant amount of data before concluding that an electric vehicle's solar roof can help keep energy in a storage cell if solar rooftops are incorporated into the vehicle in the event of open-air parking. The induction of motor-driven solar-powered electric vehicles is suggested in this regard. Two electric motors a BLDC and an induction motor—and their performance are evaluated mathematically in this research article. To learn more about the structural analysis of Induction motor-driven solar automobiles, MATLAB simulations were described. The findings of this study may help researchers better understand Induction motors, which are used to boost the durability, dependability, high speed, and low maintenance costs of electric vehicles. Solar roofing might also improve the battery life and distance running of an electric vehicle.*

Keywords: Induction Motor, Charging Station, Electric Vehicle, Hybrid Electric Vehicle(HEV), Solar Automotive, BLDC Motor

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