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Photovoltaic system for E-Smart electric vehicle

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Abstract

The vehicles relied on fossil fuels are rapidly being replaced by electric and plug-in hybrid vehicles. But these types of vehicles are still faced with the problem of energy availability. The abundance of solar radiation and its use as the power source in electric vehicles is a necessary condition for environmental pollution limitation. In this study, the authors present photovoltaic systems used as an electricity supply for E-Smart electric vehicles. E-Smart is an electric vehicle obtained through conversion, of a Smart ForTwo City vehicle, from the internal combustion propulsion system to a system that uses a three-phase asynchronous motor supplied from a pack of 32 batteries of LiFePO4 type.

Keywords: photovoltaic systems, electric vehicles, internal combustion propulsion systems, asynchronous motors

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