

A PARAMETRIC STUDY OF THE DESIGN VARIABLES FOR A HYBRID ELECTRIC CAR WITH SOLAR CELLS

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ABSTRACT

Various prototypes have demonstrated the feasibility of light cars powered with solar energy. While the case of cars powered only by the sun seems not yet feasible for practical uses, the concept of a small electric hybrid car assisted by solar cells appears more realistic. In the paper, a systematic study on the sizing and the performance of a vehicle combining thermal engine, electric motor and generator, battery and solar cells is presented, in order to evaluate their features in terms of car power, weight and fuel savings.

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