World Academy of Science, Engineering and Technology
International Journal of Mathematical and Computational Sciences
Vol:14, No:12, 2020

Sizing of Hybrid Source Battery/Supercapacitor for Automotive Applications

Authors : Laid Degaa, Bachir Bendjedia, Nassim Rizoug, Abdelkader Saidane

Abstract : Energy storage system is a key aspect for the development of clean cars. The work proposed here deals with the modeling of hybrid storage sources composed of a combination of lithium-ion battery and supercapacitors. Simulation results show the performance of the active model for a hybrid source and confirm the feasibility of our approach. In this context, sizing of the electrical energy supply is carried out. The aim of this sizing is to propose an 'optimal' solution that improves the performance of electric vehicles in term of weight, cost and aging.

Keywords : battery, electric vehicles, energy, hybrid storage, supercapacitor
Conference Title : ICSRD 2020 : International Conference on Scientific Research and Development
Conference Location : Chicago, United States
Conference Dates : December 12-13, 2020