

Integration of ultra-capacitor and battery as hybrid energy storage with intelligent controller for efficient electric vehicle application

ABSTRACT

In this paper a novel combination of Ultra-Capacitor, Battery and Intelligent Controller are presented and its application for electric vehicle is highlighted. The proposed system has significant findings through its ability to supply power to load with good saving. By using an intelligent controller, at the start of the system, priority for the ultra-capacitor is set and it gives a burst of power, providing maximum current to the load. In addition, by using the tremendous property of an ultra-capacitor, fast current draining from the battery is rectified which makes the battery discharge quickly and improve battery life. Finally, the proposed system is applied in the future hybrid vehicle which will contribute to energy saving, green environment and a step toward the power and efficiency.

Keyword: Ultra-capacitor; Battery; Intelligent controller; Electric vehicle