



Abstract

Global warming and environmental pollution is a major threat to the mankind and to the earth in the 21st century. There are many reasons for the global warming. Higher percentage of the pollution happens because of the transportation.

Earliest days travelling was done by using animals like horse's, by cows etc. Later on people began to improve the transportation because it helped to do their day-to-day activities easily. Huge revolution took place when the combustion engine was invented in 1798 by **John Stevens**. Time past and today it has come to a huge successes.

Fossil fuel is the main source of the combustion engine. Hence the fuel is a diminishing resource, the prices of which continue to rise. So alternative energy should be used to overcome this issue. Electricity is a one solution for that. Then the hybrid and full electric vehicles came to the market.

Racing is a popular sport from the beginning of the motor vehicle age. When the fossil fuel is over will that sport stop. Then the experts have convert racing cars to electric. Then the electric racing has begun. This report consists of the battery management system of a track day Formula one type electric racing car.

Electrical energy is a good source of energy for electric cars. However the capacity of electrical energy is limited and also there are lots of resistive forces. So then the electrical energy should be handled more efficiently.

The main goal of this research is managed the regenerative breaking energy more efficiently and also improve usability of the battery bank itself by reducing the resistive forces like resistance and temperature of circuits. Super capacitor based regenerative energy storage system is going to be used. Li-ion battery cells are going to be used as the main storage source and an auxiliary battery will be installed to power up the system circuits and the other electric equipment's in the car.