

PhD Research proposal

OPTIMIZATION OF THERMAL PARAMETERS FOR THE MANAGEMENT OF ELECTRIC VEHICLE BATTERY SYSTEM

Now a days, Electric vehicles develop fast and have become popular due to their zero emission and low cost effectiveness. The performance and life-cycle costs of electric vehicles depend inherently on batteries. The service life, capacity, and internal resistance of the batteries are sensitive to temperature changes. Overheating caused by electron's movements during chemical reactions during the charging and discharging process in elevated temperatures can lead to fatal destruction of the batteries. Hence an efficient battery thermal management system is one of the most necessary technologies for success of the electric vehicles in the long term. The functions of battery thermal management system include the accurate measurement and monitoring of the battery temperature, the effective cooling of the battery pack when the temperature is too high and rapid heating under low temperature conditions.

This proposed research mainly focuses on the optimization of thermal parameters for the performance of the battery system in the state of art of electric vehicles.

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