عنوان مقاله:

Hybrid central control unit software development for series hybrid electric vehicles

محل انتشار:

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خلاصه مقاله:

Nowadays hybrid electric vehicle (HEV) has drawn attention of car manufacturer since it provides high efficiency, clean and safe transportation. The appropriate management of all components in such a vehicle is very controversial. This paper presents the design and implementation of the Vehicle Control Software (VCS) as the central control system of a hybrid electric city bus in Vehicle, Fuel, and Environment Research Institute (VFERI) , University of Tehran, Iran. The central control system is responsible for supervisory control of the power train, including energy flow control based on the defined control strategy, communication between components, protection against dangerous situations, startup of subsystems and performance management of the entire vehicle. The Controller Area Network (CAN) protocol has been used for data communication between the VCS and vehicle components. The VCS performance is evaluated with HIL simulation and the results reveal the acceptable performance and effectiveness of the designed VCS. The developed VCS software is a flexible platform which can be used for different series hybrid electric vehicles and pure electric vehicles.

کلمات کلیدی:

hybrid vehicle, central control unit, hardware in the loop testing

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