A Study on the Distributed Energy of the CFA6470 Hybrid Electric Vehicle Based on the Method of the MATLAB

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Abstract—The paper presents an investigation of the distributed energy problem in the CFA6470 hybrid electric vehicle (CFA6470HEV). The parallel hybrid drivelines are introduced in the CFA6470HEV. The universal characteristics of the engine are achieved with the neural network model, based on the engine experiment. The optimal operating state of the engine is obtained by assuming one value of the specific fuel consumption. The power and torque of the vehicle is also calculated using four continuous ECE-15 cycles and one EUDC cycle. Thus the operation rule of the electric motor can be achieved. The state of charge of the battery pack has been evaluated by using the energy conservation between the electric motor and battery pack. The result shows that the method is feasible. Both of the operating state of the vehicle and the state of charge of the battery pack can be controlled correctly.