Evaluation of Performance and Development of User Interface for the Parallel Hybrid Electric Heavy Motorcycle System

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ABSTRACT

The electrically operated vehicles are the zero exhaust pollution environmental protection transportation vehicle, but because the endurance and the performance are not good, thus affects the electric car the market. Although the traditional internal combustion engine the exhaust pollution is serious, but unifies merit of and the electrically operated motor the internal combustion engine characteristic the compound powered vehicle (Hybrid Electric Vehicle, HEV), is surely kind of province can also the low pollution has the environmental protection concept the vehicles. Connect in parallel compound electronic heavy-duty motorcycle experiment platform by existing heavy-duty internal-combustion engine and electronic motorcycle motor of motorcycle on the market and cooperate innovative power combine by oneself The organization plans to make up. This system adopts the organic whole type motor / the generator and dual axle type power combine the organization. Connect in parallel compound no matter change, vehicle of load power make internal-combustion engine, can maintain best state turn round, behind experiment, Connect in parallel compound electronic heavy-duty motorcycle system can deal with various kinds of road surface states all, when the system is exported with a pair of motive force, combine via power organization is it produce high-power deal with tight severe road demand to combine, in the vehicle in case of heavy load, operate in low oil consumption and operating area of low pollution after the internal-combustion engine is started, the fuel consumption saves 60% more than the general traditional vehicle. Uses the LabVIEW establishment to test bench the immediate supervisory system and the magnetic powder type brakes the control formula, the immediate supervisory system monitors and records various power supplies output, may cause the integrated system research and development time to reduce, applies the brake in the supervisory system establishment internal combustion engine break spec. fuel consumption (BSFC) to monitor the region, may know whether the internal combustion engine in the hypothesis best revolution area, does establish the magnetic powder type to brake control formula its goal is for can follow the hypothesis applied load correctly, and achieves the automated test.

Keywords : Parallel hybrid electric heavy motorcycle ; Real-Time Monitor System ; Break spec. fuel consumption

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