Simulation of Parallel Hybrid Power Split System

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ABSTRACT

The internal combustion engine, motor and generator are an important part in a hybrid electric vehicle system, so the power distribution of three components is an important index of the overall efficiency. The TOYOTA parallel hybrid electric system developed by TOYOTA automobile company is used in this research. Simulation models are built by Matlab/Simulink software according to power split relationship. The performance response curves of the internal combustion engine, the motor and the generator are analyzed and Fuzzy logic control is used to adjust throttle and switch positions.

Keywords : parallel hybrid electric system, power split, fuzzy logic

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