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Automation Test Method and HILS Environment Configuration for Hydrogen Storage System Management Unit Verification

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Abstract : The Hydrogen Storage System Management Unit (HMU) is a controller that manages hydrogen charging and storage. It detects hydrogen leaks and tank pressure and temperature, calculates the charging concentration and remaining amount, and controls the opening and closing of the hydrogen tank valve. Since this role is an important part of the vehicle behavior and stability of Fuel Cell Electric Vehicles (FCEV), verifying the HMU controller is an essential part. To perform verification under various conditions, it is necessary to increase time efficiency based on an automated verification environment and increase the reliability of the controller by applying numerous test cases. To this end, we introduce the HMU controller automation verification method by applying the HILS environment and an automation test program with the ASAM XIL standard.

Keywords : HILS, ASAM, fuel cell electric vehicle, automation test, hydrogen storage system
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