



Efficiency and Emission Simulations of Hydrogen-Fuel City Buses

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Abstract. In this study, the AVL Cruise is implemented to simulate driving parameters including the driving cycle, the loss of power to engine accessories, the gear-shifting strategy and the fuel shut-off strategy of the engine influencing the bus fuel efficiency and emission. The Mercedes Conecto LF city bus using a diesel engine with Standardised On-Road Test Cycles was firstly simulated and compared with available literature. The application of hydrogen fuel was then investigated and compared with the diesel fuel on the specific fuel consumption. In addition, the driving cycles in Bangkok were simulated. The results show the pattern on both driving cycles with different fuel are similar, however, the fuel consumption of H₂ is significantly less than in the case of Diesel. Moreover, it is also evidently that the SORT driving cycle cannot represent the heavy traffic of Bangkok.

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