

Simulation Research of City Bus Fuel Consumption during the CUEDC Australian Driving Cycle

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Abstract : The fuel consumption of city buses depends on a number of factors that characterize the technical properties of the bus and driver, as well as traffic conditions. This parameter related to greenhouse gas emissions is regulated by law in many countries. This applies to both fuel consumption and exhaust emissions. Simulation studies are a way to reduce the costs of optimization studies. The paper describes simulation research of fuel consumption city bus driving. Parameters of the developed model are based on experimental results obtained on chassis dynamometer test stand and road tests. The object of the study was a city bus equipped with a compression-ignition engine. The verified model was applied to simulate the behavior of a bus during the CUEDC Australian Driving Cycle. The results of the calculations showed a direct influence of driving dynamics on fuel consumption.

Keywords : Australian Driving Cycle, city bus, diesel engine, fuel consumption

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