

Energy demand analysis of fuel cell buses via longitudinal dynamics simulation

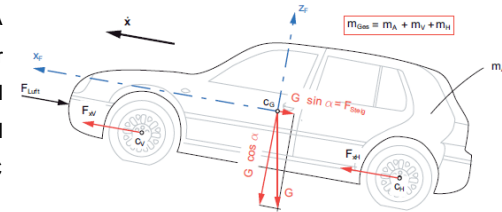
Description

European cities are reinforcing their efforts towards a full decarbonization of their public transport systems. One promising approach is the implementation of fuel cell (FC) bus fleets which are powered by green hydrogen produced with renewable energy sources. A longitudinal dynamics simulation is a valuable tool to determine the daily energy demand of the bus fleet during the course of the year and improve the overall efficiency of the powertrain and climatization system of the busses. Within this master thesis, a simulation model should be implemented and validated with measured consumption data of conventional fossil fuel driven busses and new fuel cell busses. The reduction and further optimization potentials should be detected and analyzed with regard to future improvements of the FC bus technology.

Content

- Literature research and requirement analysis (1,5 months)
- Development of methodology and model design (2 months)
- Analysis of energy demand for FC busses and detection of optimisation potentials (1,5 months)
- Creation of written master thesis in english or german (1 month)

Start	09/2020
Duration	ca. 6 months
Compensation	€ 2.600
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Source: MT Staggl



FC-Bus at HyCentA facility