



Bachelor Thesis

Theoretical

Evaluation and Comparison of Hydraulic and Electric Hybrid Vehicles

Keywords: Hydraulic hybrid, Electric hybrid, Energy efficient systems

General conditions:

Duration: 3-4 Months

Language: Deutsch or English

Prerequisites:

- Able to work independently and in time
- Show personal initiative and skills for self-organization
- Show capability of intensive/extensive reading and summarizing

Content:

Nowadays, efforts have been made to reduce energy consumption by improvement and optimization of fuel consumption in automotive. Hybrid powertrain is defined as a concept that uses more than one source of energy to run the system. Usually, the first source is an internal combustion engine. Second or third one can be an electric, hydraulic, pneumatic or mechanic energy storing system.

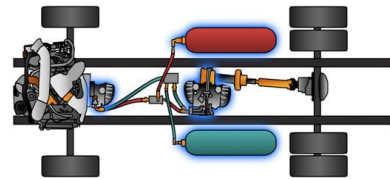


Image: the U.S. Environmental Protection Agency

The goal of the thesis is to make an intensive /extensive literature research on the topologies, components, efficiency, energy recovery rate, cost, and durability of the systems to evaluate the systems. The main tasks include:

- Literature research regarding
 - Researched, developed principles and systems
 - Topologies of hybrid systems and system configurations
 - Evaluation of key components of the systems in case of efficiency, size, cost, and durability
 - Evaluation of fuel savings of the systems
- Comparison of the key parameters and the effect of them on the systems operation

The whole results have to be perfectly documented using LaTeX and the main results have to be demonstrated within an oral presentation.

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