

RWTHAACHEN
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Bachelor Thesis / Master Thesis

Start: from now

- ☒ Faculty 1 - Mathematics, Computer Science and Natural Sciences
- ☒ Faculty 4 - Mechanical Engineering
- ☒ Faculty 6 - Electrical Engineering and Information Technology

Evaluation of electric vehicle range improvement potential with reconfigurable windings

Electric motors with reconfigurable windings in operation change machine torque-speed and efficiency characteristics while driving. It is poised to make peak efficiency available over a wider range of driving scenarios compared to conventional fixed configuration motors. Moreover, it enables the usage of certain motor types previously not used in automotive propulsions. This is to be evaluated in detail using a full vehicle simulation for different rotor types.

Your tasks:

- Further development of longitudinal vehicle, powertrain and driving simulation with selected motor type and reconfigurable windings
- Model-based function development of mode-shift strategy
- Evaluation of results in comparison with the baseline motor with fixed winding configuration

Your competences:

- Good understanding of longitudinal vehicle dynamics, automotive powertrain knowledge
- Interest in model-based simulation, systems, vehicle and powertrain control

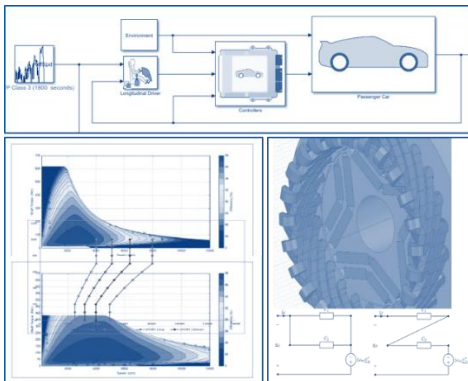
Your benefits:

- Gain skills in model-based function development that is highly asked for in the development of increasingly software-driven vehicles

We are the Teaching and Research Area Mechatronics in Mobile Propulsion (MMP). Our heart beats for the technology of tomorrow's mobility. Around the interdisciplinary topics of mechanics, electrical engineering and information technology, we research sustainable and demand-oriented drive and vehicle concepts. We bring the future into drives!

You want to know more about us? Then you will find more information under the following links:

- [Who we are](#)
- [What drives us](#)
- [What we research](#)
- [Where we are involved](#)
- [How we bring research into teaching](#)



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Would you like to know more?

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