



Bachelor Thesis / Master Thesis

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- Faculty 4 - Mechanical Engineering
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Reconfigurable-winding Solution for Electric Motors in Automotive Propulsion Applications

Typically, automotive applications require a wide range of operating points for torque and speed from the electric traction motor. However, for a given machine design with fixed winding configuration, the peak efficiency is available only within a specific region. Active winding reconfiguration may provide a solution to shift peak efficiency and performance curve to adapt it to the operating point.

Your tasks:

- Scientific evaluation of various approaches, switch types, machine types with regards to improvement potential and feasibility
- Simulation of active winding reconfiguration with regards to machine behavior, performance and efficiency improvement

Your competences:

- Fundamental concepts of electrical engineering
- Ability to analyze and create solutions for electrical and mechanical component integration in systems

Your benefits:

- Gain experience in cutting edge software and tools for electric motor design and automotive powertrain development

Would you like to know more?

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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!

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