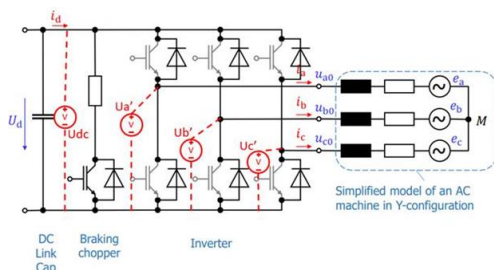


We are the Teaching and Research Area Mechatronics in Mobile Propulsion (MMP). Our heart beats for the technology of tomorrow's mobility. Around the interdisciplinary topics of mechanics, electrical engineering and information technology, we research sustainable and demand-oriented drive and vehicle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



Teaching and Research Area
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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

Stator Phase Voltage Estimation for a Dual Three-Phase Machine Drive System

Stator phase voltage estimation for the electrical machine has always been an interesting topic due to the fact that the stator voltage is often used as an input to sensorless control and other state observers, although it is not usually measured directly in the controller. Conventional estimation methods ignore the voltage drop of the power electronics and the inherent dead band of the inverter, in addition to the inverter temperature, which is not negligible. The asymmetry of the phase windings shall be considered into the estimation procedure as well. This topic focuses on modelling the electrical machine phase voltages, implementing the algorithm with a dSpace real-time control processor, and verifying it experimentally on a test bench.

Your tasks:

- Literature research on inverter modelling and phase voltage estimation methods.
- Implementation and optimization of the stator phase voltage estimation method in Matlab/Simulink and an RCP system.
- Verification on a test bench.

Would you like to know more?

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