

 $\frac{4}{3}u_e$

19

Graz University of Technology Electric Drives and Machines Institute

Master's Thesis

Three Level PWM Inverter – PWM Schemes

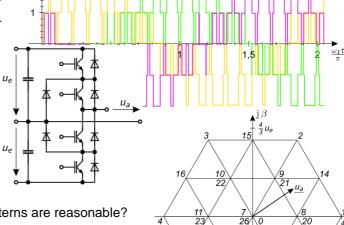
 $\frac{u_{xy}(t)}{t}$

2

Motivation

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The advantages of multi-level converter topologies include lower voltage stress on the semiconductor devices and thus larger possible output power of the converters, lower stress on the insulation and thus longer service life of electrical machines supplied, as well as better behavior in terms of electromagnetic compatibility.



Research Questions

- Which criterions for comparing PWM patterns are reasonable?
- How can certain suitable PWM patterns be implemented on a given hardware?

Tasks

- Starting from an existing circuit, modulation methods known from the literature are to be compared with regard to the quality of the output signals and the possibility of implementation on existing hardware.
- Selected algorithms should be compared by simulation, for which comparison criteria must be defined.
- At least one of the algorithms should be selected for implementation and testing in the laboratory. Measurements will be carried out to demonstrate the functionality of the algorithm and for comparison with the simulation results.

Contact

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