

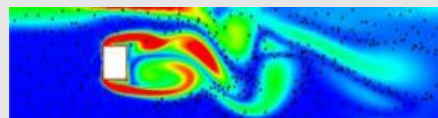
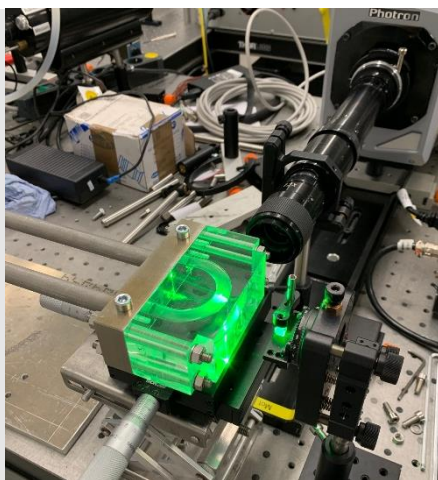
**Bachelor-/Projekt-  
/Masterarbeit**

## Titel

Evaluation of the rheological and thermal properties  
of heat transfer liquids

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Zeitpunkt: Ab sofort



## Description

An electric vehicle with an electric motor as the drive and an electric battery as the energy storage system represents an adequate solution for reducing emission levels and achieving climate targets. However, the main obstacles for potential customers of such battery electric vehicles are the electric range and the charging time, which are due to the battery technology. For lithium-ion battery packs, these problems can be significantly improved through innovative battery thermal management. For this purpose, heat transfer fluids are tailored by adding nanoparticles. In this work, such nano heat transfer fluids are characterized rheologically and thermally using various measurement techniques. Characteristic vortex flows are formed in flow channels made of acrylic glass with selected benchmark geometry. Thermal measurements are carried out in metallic counterparts of the flow channel. Temperature sensors will be placed in this counterpart adjacent to the flow channel to evaluate the heat transfer rates of the moving fluid. Both conventional thermocouples and high-speed heat flow sensors will be considered for optimal evaluation of thermal characteristics.

Zeitraum: ab sofort

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