

Prof. Dr. Malte Jaensch
Electric Mobility

Bachelor/Semester Thesis

Comparative Analysis of Various X-ray Computed Tomography Devices for Measuring Oil Distribution in Electric Drives

Description

The Chair of Sustainable Mobile Propulsion Systems is currently developing a novel method for quantitatively measuring oil distribution in transmissions and wet-running electric motors. Medical computed tomography (CT) scanners are currently being used for this purpose. However, other types are more common in industry. To ensure the method is soundly developed, potential device types and their characteristics must be examined for suitability. A thorough literature review on devices and material properties in the powertrain will be supplemented by X-ray imaging simulations and comparisons with existing measurements from various devices. The goal is to publish the results in a peer-reviewed journal.

Tasks

- Literature review on computed tomography and sample materials
- Comparison of Methods and Devices Using Simulation and Existing Measurements
- Evaluation of suitability for oil distribution measurement in electric drive systems
- Documentation in the form of a student thesis and, if applicable, contributing to a publication

Requirements

- Independent familiarization with unfamiliar topics
- “Out-of-the-Box” Problem-Solving Skills

Time Frame

From now

Contact

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