

- Plant Design Exercise (KÜ) theoretical
 Master's thesis experimental

Optimization of a LabVIEW controlled HT- and LT-PEFC Test Station

This topic focuses on the optimization and enhancement of a LabVIEW program used to control a high-temperature (HT) and low-temperature (LT) polymer electrolyte fuel cell (PEFC) test station. The goal is to improve the program's functionality, performance, and user experience. Key tasks include conducting literature research on LabVIEW programming and PEFC test stations, analyzing the current program to identify inefficiencies, restructuring the code for improved readability and maintainability, and integrating new features to enhance the test station's capabilities. Thorough testing and validation will ensure that the optimized program meets all performance and accuracy requirements, ultimately supporting reliable and accurate results for both HT- and LT- PEFC applications.

The student's tasks include:

- **Literature review:** Conduct comprehensive research on LabVIEW programming best practices and common challenges in PEFC test stations.
- **Current program analysis:** Examine the existing LabVIEW program to identify inefficiencies and areas for improvement.
- **Code restructuring:** Rearrange the existing code to improve readability, modularity, and maintainability.
- **Feature addition:** Develop and integrate new features and safety measures that enhance the test station's capabilities.
- **Testing and validation:** Perform thorough testing to ensure the optimized program meets all performance and accuracy requirements.

Master's theses are paid with an expected a duration of **6 months**.

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Start: **sofort/right away**