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**Bachelor Thesis  
or  
Student Research  
Project**

**LabVIEW-Based  
Control System  
for Experimental  
Testing of High-  
Temperature  
Heat Pipes**

**Objective:**

The aim of this thesis is to implement a LabVIEW-based control system to monitor an experimental setup. The control system shall manage multiple interconnected components of the setup, including a Rectifier, Power Mosfets, Cryostats, and a Data Acquisition System.

**Background:**

In the framework of the project "MISHA - Passive cooling of innovative micro nuclear reactors", this research project is geared towards evaluating the heat transport performance of high-temperature heat pipes. Therefore, an appropriate testing facility is currently under construction. To ensure seamless coordination and control of various interconnected devices, the development of a LabVIEW-based monitoring and control system is imperative.

**Procedure:**

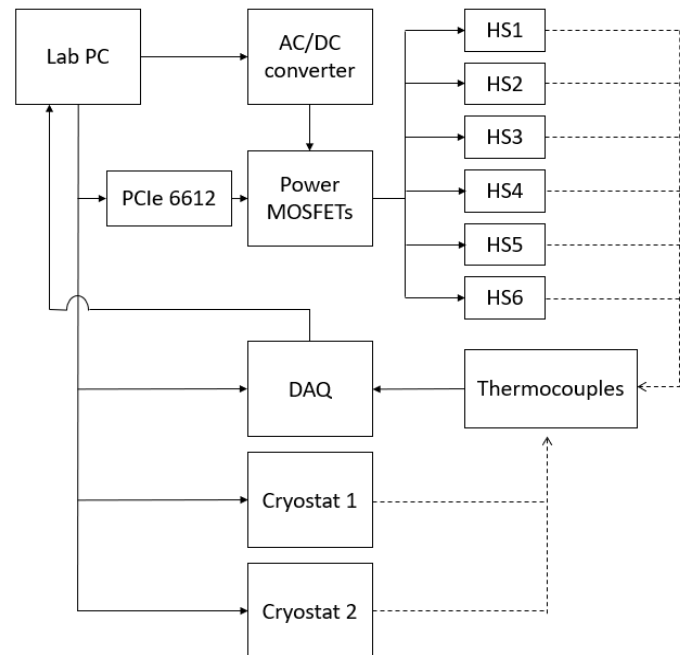
- Familiarization with the fundamentals of LabView.
- Establishing connections between the Lab computer and all the integral devices.
- Programming of the LabVIEW-based control system for four distinct subsystems: heating section, cooling section, power supply, and power management.
- Initial operation of the control system and first tests to check its functionality.
- Analyzing and categorizing the test results.
- Written report and oral presentation in the IKE-seminar for students.

**Requirements:**

- A strong inclination toward hands-on experimental work.
- Basic knowledge in measurement techniques and in LabView software desirable.
- English language skills.

**Start:** from 01.02.2024

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**Fig. 1: Simplified conceptual sketch of the control system.**

