Contribution ID: **437** Contribution code: **WEP035** Type: **Poster Presentation**

External controller for the SRFK thyratron heaters

Wednesday 13 August 2025 16:00 (2 hours)

The following work will detail the development and implementation of a system which will measure the voltage and current from two points on a high-voltage switch called a thyratron and automatically manipulate two variable transformers controlling these values. Each of the extraction kickers at LANSCE (SRFK71 & SRFK81) uses a thyratron to trigger their respective pulses. The thyratrons have separate heaters for the cathode and reservoir, and each needs to maintain specific voltage and current levels for the thyratron to work properly. Currently, the method of measuring and adjusting these values requires locking out the system, opening the tank, and measuring the voltage and current of each heater, then adjusting two variable transformers by hand to reach the desired values. This controller consists of four analog-to-digital converters which will relay these measurements out of the modulator as digital signals through fiber optic transceivers. An Arduino will be programmed to interpret the digital signals and display the values on an LCD. It will also return signals to DC motors controlling the variable transformers if the values lie beyond the desired range.

Please consider my poster for contributed oral presentation

No

Would you like to submit this poster in student poster session on Sunday (August 10th)

Yes

Footnotes

Funding Agency

I have read and accept the Privacy Policy Statement

Yes

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