Contribution ID: **306** Contribution code: **MOP004** Type: **Poster Presentation**

Analog signal multiplexing system for the IOTA Proton Injector

Monday 11 August 2025 16:00 (2 hours)

The Fermilab Accelerator Science and Technology (FAST) Facility at FNAL is a dedicated research and development center focused on advancing particle accelerator technologies for future applications worldwide. Currently, a key objective of FAST Operations is to commission the 2.5 MeV IOTA Proton Injector (IPI) and enable proton injection into the IOTA storage ring. The low and medium-energy sections of the IPI include four frame-style dipole trims and two multi-function correctors with independently controlled coils, requiring readout of 32 analog channels for current and voltage monitoring in total. To reduce cost and optimize rack space within the PLC-based control system, a 32-to-4 analog signal multiplexing system was designed and implemented. This system enables real-time readback of excitation parameters from all magnetic correctors. This paper presents the design, construction, implementation, and performance of the multiplexing system.

Please consider my poster for contributed oral presentation

No

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

No

Footnotes

Funding Agency

I have read and accept the Privacy Policy Statement

Yes

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