

Modernizing Fermilab's Accelerator Control Hardware

Tuesday 10 December 2024 17:15 (15 minutes)

Modernizing the Fermilab accelerator control system is essential to future operations of the laboratory's accelerator complex. The existing control system has evolved over four decades and uses hardware that is no longer available. The Accelerator Controls Operations Research Network (ACORN) Project will modernize the control system and replace end-of-life power supplies to enable future accelerator complex operations with megawatt particle beams. The ACORN project is planning to replace Fermilab's obsolete CAMAC crate-and-card controls hardware with modern MicroTCA hardware. There are over 2,000 CAMAC cards and over 250 CAMAC crates serving various functions in Fermilab's control system. We will review the existing CAMAC hardware and provide updates on the status of the ACORN project, which includes the conceptual design of the MicroTCA replacement hardware and software tools for supporting the installation of hundreds of MicroTCA crates.

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Session Classification: Session 2