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Development and Characterisation of a Radiation-Tolerant Power Supply for Beam Instrumentation

Monday 8 September 2025 16:00 (2 hours)

CERN's Beam Instrumentation Group is developing a mini-crate to host the future BLM and BPM systems acquisition electronics at HL-LHC and SPS accelerators. For this purpose, a new power supply has been designed to meet the low noise requirements, high reliability, and availability standards for these harsh radioactive environments. The design makes use of CERN-developed ASICs and radiation-tolerant qualified COTS, and follows a modular architecture for quick interventions and safe handling. The paper presents the design, prototype characterisation results, identified issues, and mitigation methods to achieve the required radiation tolerance.

Footnotes

Funding Agency

I have read and accept the Conference Policies

Yes

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