

Power distribution for SLHC trackers: challenges and solutions

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Current silicon detector systems power each detector module independently. For large-scale detectors like the LHC trackers, tens of thousands of cables are needed to power the front-end electronics. At the price of added material, the conventional independent powering is just manageable. For the SLHC trackers, with a five- to ten-fold increase in the number of electronic channels and increased total current, independent powering becomes prohibitive. Solving the power distribution problem is a major challenge, which must be met to make tracking at SLHC possible. I will give an overview of alternative power distribution concepts, summarise the current R&D activities and discuss power distribution requirements from a system perspective.

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