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## **DC-DC Conversion Powering Schemes for the CMS Tracker at Super-LHC**

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With conventional powering the increasing power requirements of the CMS tracker at Super-LHC cannot be met using the existing power supplies and/or cable plant. Therefore a novel powering scheme based on parallel powering with DC-DC conversion is foreseen for the CMS pixel detector at SLHC phase-1, and for the CMS outer tracker at SLHC phase-2.

We will present electrical studies (efficiency, EMC) and system test measurements with strip modules, using DC-DC buck converters with either custom radiation-hard converter ASICs or with commercial ASICs. Low-mass air-core inductors have been developed, and various filters methods have been compared. The presentation will include studies of the noise coupling mechanism and the detector susceptibility. Finally the implementation of DC-DC converters into the future pixel detector and outer tracker will be discussed.

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