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## Re-designing a radiation-tolerant low voltage power supply for the ATLAS Tile Calorimeter Phase-II Upgrade

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Power Electronics used in high-energy physics experiments at the Large Hadron Collider (LHC) more specifically the ATLAS detector, which are custom built and have to work reliably in the presence of ionizing radiation and an ever present magnetic field. In many such applications, owing to cost constraints, Commercial Off-The-Shelf (COTS) components are often used instead of components that are radiation-hard by design. Moreover, design complexity, verification effort, and scalability issues in centralized structures can impede performance improvement in monolithic designs. This talk presents the steps followed for upgrading and re-designing a radiation tolerant low voltage power supply for a large scale operation and the considerations made for such a design. This includes measurements taken at component level, system level, and radiation tests done using the newly upgraded low voltage power supply

### Apply to be considered for a student ; award (Yes / No)?

Yes

### Level for award;(Hons, MSc, PhD, N/A)?

PhD

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