

# Irradiation studies at the Bern Cyclotron for the ATLAS ITk Upgrade

*Thursday, May 27, 2021 7:30 AM (18 minutes)*

At the high-luminosity LHC, the radiation levels for participating experiments will increase by over one order of magnitude in TID compared to current levels. Therefore, components and materials installed closest to the interaction points, such as the new ATLAS Inner Tracker (ITk), have to be tested for their durability in high-radiation environments. The variety and multitude of materials and components requires a large number of irradiation campaigns. For this purpose, the irradiation facility at the Bern medical cyclotron, an 18 MeV proton accelerator, can be utilised. The laboratory setup allows for studies of radiation hardness of different samples, such as cables, connectors, electronics and shielding materials. This talk gives an overview of various irradiation campaigns of components and materials for the ITk readout system, which were recently performed at the Bern cyclotron.

## **TIPP2020 abstract resubmission?**

No, this is an entirely new submission.

## **Funding information**

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**Session Classification:** Experiments: Trackers

**Track Classification:** Experiments: Experiments: Trackers