

11th Beam Telescopes and Test Beams Workshop



Contribution ID: 11

Type: **Talk**

Longevity studies for the CMS Drift Tube System towards HL-LHC

Monday 17 April 2023 18:40 (20 minutes)

The various CMS detector parts will face significant challenges as a result of the High Luminosity LHC (HL-LHC) program. While some of them will be replaced by more sophisticated systems, others, like the Drift Tube chambers, will need to function at 5 times the instantaneous luminosity that they were designed for and maintain roughly 10 times the anticipated LHC integrated luminosity. To meet these challenges and investigate their influence on detector performance, a series of accelerated irradiation tests were carried out at the CERN Gamma Irradiation Facility. The studies on the longevity of the Drift Tube system after integrating approximately 45 mC/cm of charge, as predicted at $3 \times$ HL-LHC integrated luminosity, have been performed and reported in this talk. The approach used to reduce the impact of the high integrated charge is addressed.

Primary author: SARKISOVI, Valentina (Rheinisch Westfaelische Tech. Hoch. (DE))

Presenter: SARKISOVI, Valentina (Rheinisch Westfaelische Tech. Hoch. (DE))

Session Classification: Experiments - LHC