Contribution ID: **24** Type: **not specified**

CMS ZDC data monitoring for RUN 3

Monday 24 October 2022 11:30 (30 minutes)

The CMS Zero Degree Calorimeters (ZDCs) are used to measure very forward and backward neutrons and photons from heavy-ion (and possibly pp) collisions at the LHC. Their purpose is to characterise the geometry of heavy ion, photon nucleus and photon-photon collisions. The ZDCs are built from layers of tungsten and quartz fiber and detect Cerenkov light produced by the showers of particles generated from incoming neutrons and photons. They will serve as basic minimum bias trigger for 2022 PbPb run. To operate the ZDCs efficiently it is vital to have a comprehensive monitoring system. This paper will present design considerations and results of prototype testing of the new ZDC monitoring system. This system operates within the framework of the CMS Online Monitoring System (OMS). A dedicated workspace for the ZDC allows the organizing of monitored metrics in folders and pages. The most important metrics are energy distributions, the shower shape profile and the single neutron peak. At a lower level charge and time distributions for individual channels are available. CMS OMS supports correlation of multiple data sources which allows monitoring of rate per layer of ZDC average flux versus luminosity. Different pages give access to the current status of the detector as well as access to historical data.

Authors: SILALE, Aivaras (Vilnius University (LT)); LE MAHIEU, Cole Douglas (University of Kansas); STANKEVICIUS, Mantas (CERN); POPESCU, Sorina (The University of Kansas (US)); RAPSEVICIUS, Valdas (Vilnius University (LT))

Presenter: SILALE, Aivaras (Vilnius University (LT))