20th International Conference on Computing in High Energy and Nuclear Physics (CHEP2013)

Contribution ID: **42** Type: **Poster presentation**

The ALICE Data Quality Monitoring: qualitative and quantitative review of 3 years of operations

Monday 14 October 2013 15:00 (45 minutes)

ALICE (A Large Ion Collider Experiment) is a detector designed to study the physics of strongly interacting matter and the quark-gluon plasma produced in heavy-ion collisions at the CERN Large Hadron Collider (LHC). Due to the complexity of ALICE in terms of number of detectors and performance requirements, Data Quality Monitoring (DQM) plays an essential role in providing an online feedback on the data being recorded. It intends to provide shifters with precise and complete information to quickly identify and overcome problems, and as a consequence to ensure acquisition of high quality data.

This paper presents a review of the DQM operations during the first three years of data taking from a quantitative and qualitative point of view. We will start by presenting the DQM software and tools before moving on to the various analyses carried out and the underlying physics. An overview of the produced monitoring quantities will be given, presenting the diversity of usage and the flexibility of the DQM system.

Well-prepared shifters and experts, in addition to a precise organisation, were required to ensure smooth and successful operations. The description of the measures taken to ensure both aspects and an account of the DQM shifter's job are followed by a summary of the evolution of the system. We will then give a quantitative review of the final setup of the system used during the whole year 2012. We conclude the paper with real world cases when the DQM proved to be very valuable, scalable and efficient and with the plans for the coming years.

Author: Mr VON HALLER, Barthelemy (CERN)

Co-authors: TELESCA, Adriana (CERN); BELLINI, Francesca (Universita e INFN (IT)); FOKA, Yiota (GSI - Helmholtzzentrum fur Schwerionenforschung GmbH (DE))

Presenter: Mr VON HALLER, Barthelemy (CERN)

Session Classification: Poster presentations

Track Classification: Data acquisition, trigger and controls