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Preparing the ALICE DAQ upgrade

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In November 2009, after 15 years of design and installation, the ALICE experiment started to detect and record the first collisions produced by the LHC. It has been collecting hundreds of millions of events ever since with both proton-proton and heavy ion collision. The future scientific programme of ALICE has been refined following the first year of data taking. The physics targeted beyond 2016 will be the study of rare signals. Several detectors will be upgraded, modified, or replaced to prepare ALICE for future physics challenges. An upgrade of the triggering and readout system is also required to accommodate the needs of the upgraded ALICE and to better select the data of the rare physics channels. The ALICE upgrade will have major implications in the detector electronics and controls, data acquisition, event triggering, offline computing and storage systems. Moreover, the experience accumulated during more than two years of operation has also lead to new requirements for the control software. We will review all these new needs and the current R&D activities to address them.

Several papers of the same conference present in more details some elements of the ALICE DAQ system.

Summary

A review of the ALICE DAQ R&D activities in view of addressing the future scientific programme of ALICE following the first year of data taking.

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