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Typ: Talk

ALICE 3: a next-generation heavy-ion detector for LHC Run 5 and 6

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ALICE 3 is proposed as the next-generation experiment to address unresolved questions about the quark-gluon plasma by precise measurements of heavy-flavour probes as well as electromagnetic radiation in heavy-ion collisions in LHC Runs 5 and 6. In order to achieve the best possible pointing resolution a concept for the installation of a high-resolution vertex tracker in the beam pipe is being developed. It is surrounded by a tracker based on monolithic active CMOS pixel sensors covering roughly 8 units of pseudorapidity. To achieve the required particle identification performance, a combination of a time-of-flight system and a Ring-Imaging Cherenkov detector is foreseen. Further detectors, such as an electromagnetic calorimeter, a muon identifier, and a dedicated forward detector for ultra-soft photons, are being studied. In this presentation, we will explain the detector concept and its physics reach as well as discuss the R&D challenges.

Experiment/Theory

ALICE

Affiliation

ALICE

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Sitzung Einordnung: Parallel: Future Experimental Facilities

Track Klassifizierung: Future experimental facilities