

## Future Perspectives of the ALICE Experiment and ALICE detector upgrades

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A major long-term goal of the ALICE experiment is to understand the detailed properties of the hot and dense QCD medium created in ultra-relativistic heavy ion collisions. The ALICE experiment has measured many observables over wide kinematic ranges (many particle species,  $p_T$ , and rapidity) in Pb-Pb collisions at  $\sqrt{s_{NN}} = 2.76$  TeV. In the future, measurements towards the detailed characterization of the medium will be focused on the rare probes, in particular observables involving heavy quarks, quarkonia, low mass dileptons, jet medium interactions, and exotic hadrons, which are difficult to be accessed under the current running conditions. The potential of unique low-x measurements is also investigated in the future for the detailed understanding of the color dynamics of dense gluon field and initial conditions of the medium.

The experimental approach taken by ALICE is to provide high rate capability (50kHz collision rate in Pb-Pb corresponding to  $L=6 \times 10^{27}$  cm<sup>-2</sup>s<sup>-1</sup>) inspecting all events by upgrading several detector systems, electronics, and DAQ system.

In this talk, major highlights of the proposed studies for the ALICE upgrade will be discussed and the current status of the detector upgrade projects will be presented.

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