

Results from ALICE

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Abstract. ALICE, the dedicated heavy-ion experiment at the LHC, has also a rich pp program benefiting from its low material budget, low magnetic field, and its extensive particle identification capabilities. The talk presents recent measurements of relevance for cosmic-ray physics. In particular, ALICE measured the inelastic, single- and double-diffractive cross-sections in pp collisions at $\sqrt{s} = 0.9, 2.76,$ and 7 TeV [1]. Further, the charged-particle pseudorapidity distribution ($dN_{ch}/d\eta$) in Pb–Pb collisions at $\sqrt{s_{NN}} = 2.76$ TeV was measured over a large pseudorapidity range ($-5.0 < \eta < 5.5$) using collisions from displaced vertices [2]. Potential direct contributions of ALICE to cosmic-ray physics are also reviewed [3].

References

- [1] ALICE Collaboration, “Measurement of inelastic, single- and double-diffraction cross sections in proton–proton collisions at the LHC with ALICE”, arXiv:1208.4968
- [2] ALICE Collaboration, “Centrality dependence of the pseudorapidity density distribution for charged particles in Pb–Pb collisions at $\sqrt{s_{NN}} = 2.76$ TeV”, arXiv:1304.0347
- [3] CERN Courier, ALICE looks to the skies, 18.07.12,
<http://cerncourier.com/cws/article/cern/50219>

Slides

The slides of the talk can be found on the website of the symposium ISVHECRI 2012:
<https://indico.desy.de/conferenceOtherViews.py?view=standard&confId=4594>

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