

Status and prospects of the LHCf experiment

Thursday 18 July 2024 18:00 (20 minutes)

The Large Hadron Collider forward (LHCf) experiment, located at the LHC, plays a crucial role in high-energy particle physics research, specifically in measuring neutral particle production in the forward pseudorapidity region, to improve the understanding of ultra-high energy cosmic ray interactions with the Earth atmosphere. Our presentation will summarize the latest advancements from LHCf, focusing on the significant findings from Run II in 13 TeV proton-proton collisions. We will show the measured spectra for key particles such as photons, neutrons, π^0 and η . Additionally, we will highlight the combined analysis with the ATLAS experiment, in particular emphasizing the energy spectra of very-forward photons in diffractive collisions. Finally, we will discuss the successful data-taking in 13.6 TeV proton-proton collisions of Run III, preliminary results for the corresponding ongoing analyses and the motivation for the next operation in proton-oxygen collisions at the LHC.

Alternate track

1. Strong Interactions and Hadron Physics

I read the instructions above

Yes

Authors: BERTI, Eugenio (Universita e INFN, Firenze (IT)); PIPARO, Giuseppe (Universita e INFN, Catania (IT))

Presenter: PIPARO, Giuseppe (Universita e INFN, Catania (IT))

Session Classification: Astro-particle Physics and Cosmology

Track Classification: 08. Astro-particle Physics and Cosmology