Contribution ID: **698** Type: **Parallel Talk**

A fixed-target programme at the LHC for heavy-ion, hadron, spin and astroparticle physics: AFTER@LHC

Wednesday, 16 May 2018 16:00 (20 minutes)

By splitting the multi-TeV LHC proton and lead beams with a bent crystal or by using an internal gas target, the LHC complex allows one to perform the most energetic fixed-target experiments ever and to study with high precision pp, pd and pA collisions at $\sqrt{s_{NN}}$=115 GeV and Pbp and PbA collisions at $\sqrt{s_{NN}}$=72 GeV. A broad programme, covering the large-x frontier for particle and astroparticle physics, spin and heavy-ion physics will greatly complement collider experiments, in particular those of RHIC and the EIC project. We will present our latest feasibility studies for Drell-Yan, quarkonia, heavy-flavoured as well as light flavoured hadrons using LHCb and ALICE detectors. These can be studied with different species in a wide rapidity range providing important information concerning quark and gluon (n)pdf at large x, cold nuclear matter effects, quarkonium formation time in the medium, expected sequential suppression in QGP and final state interaction effects.

Content type

Experiment

Collaboration

AFTER@LHC study group

Centralised submission by Collaboration

Presenter name already specified

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