

Suggested LHCf Projects for LHC Run 3

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DESY AP-PP Meeting, 15.03.2022

Calibration

- > Energy scale calibration of LHCf arm 1 (also arm 2) with π^0 - and η -dataset
- > Hasn't been done for run 2 (only arm 2 data usable)
- > Energy scale is the largest uncertainty in LHCf analyses
- > Benefit: Double acceptance
- > Completely independent of ATLAS (necessary for proposal)
- > Open questions (sent to LHCf contact)
 - Which (independent) dataset will be used to avoid bias?
 - Is extra calibration needed for the p-O collision run?

Forward Particles in p-Pb collisions

- > π^0 measurement (2 photons)
 - up to now not enough statistics
 - most interesting study for us, especially for p-O (?)
- > Photon measurement
 - only preliminary results from earlier p-Pb runs
 - not so useful for us?
- > Neutron measurement
 - Large ultra-peripheral collision backgrounds expected for HI collisions
 - not so useful for us?

No mentioning of p-O collisions in the list, but would be our main interest.

Forward Strange Hadron Measurements (pp)

- > K^0 measurement
 - new analysis (not enough statistics in run 2)
 - main physics goal in run 3 (many groups may want to participate)
- > Λ measurement ($\pi^0 + n$)
 - new reconstruction method needed (challenging)
 - Δ^0 background?
 - not so useful for us?

Backup