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Physics results of the LHCf experiment

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The LHCf experiment has been installed at ± 140 m from the ATLAS LHC interaction region, to precisely measure the neutral particle energy spectra (mainly photons, neutral pions and neutrons) produced very forward in the LHC collisions.

The experiment has successfully taken data both in p-p collisions (at 900 GeV, 2.76 TeV, and 7 TeV center of mass energy)

and in the p-Pb collisions at the beginning of 2013.

The main LHCf physics results will be presented, emphasizing their relevance both in the forward physics of the high energy

hadronic interactions and the in the high energy cosmic ray field.

An overview of the ongoing upgrade activities in view of the 13 TeV p-p collisions will also be given.

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