

# The performance of the new LHCf detector for hadronic showers

*Tuesday, 11 October 2016 15:40 (30 minutes)*

The Large Hadron Collider forward (LHCf) experiment is designed for verification of hadronic interaction models used in cosmic ray physics. We have measured neutral particles, especially neutrons, in very forward region of  $\sqrt{s} = 13\text{TeV}$  proton-proton collision at CERN-LHC in order to measure inelasticity. For the purpose, the LHCf detector was updated in 2014 by using GSO scintillator to improve radiation-hardness of the detector. In this poster, we present the performance of the new LHCf detector for hadronic showers evaluated by a beam test at CERN-SPS and MC simulations. The energy resolution and position resolution are found to be 43% and 0.6mm at the center of detector for a 300 GeV proton beam. We confirmed the new detector performance is consistent with the performance of the old detector used in the 2010 operation.

## Presentation type

poster

**Primary author:** UENO, Mana (Nagoya University (JP))

**Presenter:** UENO, Mana (Nagoya University (JP))

**Session Classification:** Poster session