



Contribution ID: 72

Type: **Poster**

The ATLAS ZDC detector

Wednesday, 11 April 2012 19:00 (20 minutes)

The Zero Degree Calorimeter (ZDC) of the ATLAS experiment at CERN is placed in the TAN of the LHC collider, covering the pseudorapidity region higher than 8.3. It is composed by 2 calorimeters, each one longitudinally segmented in 4 modules, located at 140 m from the IP exactly on the beam axis. The ZDC is mainly used for heavy ion physics, as it provides information about the collision impact parameter and it is a trigger in ultra-peripheral collisions. The ZDC can also detect neutral particles during pp collisions and it is a tool for diffractive physics. Here we present some preliminary results on the ZDC performance for the detection of photons, neutrons and pi0s obtained using Pb-Pb and p-p collision data. First the pi0 reconstruction will be used for the detector calibration with photons, then we will show preliminary results on the forward photon energy distribution in p-p collisions. Finally we will present the detector performance using monochromatic neutrons in heavy ion collisions.

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Session Classification: Sessione poster

Track Classification: Nuove Tecnologie