



ID de Contribution: 14

Type: **Oral presentation**

Design, Construction, Operation and Performance of the Hadron Blind Detector for the PHENIX Experiment at RHIC

lundi 3 mai 2010 12:30 (30 minutes)

A Hadron Blind Detector (HBD) has been developed for an upgrade of the PHENIX experiment at RHIC. The detector installed in 2008 was successfully operated during the p+p run of 2009 and is presently taking Au+Au data at $\sqrt{s_{NN}} = 200$ GeV. The HBD is a windowless Cherenkov detector, operated with pure CF₄ in a special proximity focus configuration. The detector consists of a 50 cm long radiator directly coupled to a triple GEM detector which has a CsI photocathode evaporated on the top face of the first GEM foil and pad read out at the bottom of the GEM stack. A comprehensive report including, motivation, design, construction, and operation of the detector will be given. In particular detailed studies of the detector performance will be presented including position resolution, gain calibration and stability, hadron rejection factor, electron-hadron separation, single electron detection efficiency, figure of merit N0 and number of photoelectrons per electron and single vs double hit distinction.

Please indicate "poster" or "plenary" session. Final decision will be made by session coordinators.

Plenary

Auteur principal: Prof. TSERRUYA, Itzhak (Weizmann Institute of Science)

Orateur: Prof. TSERRUYA, Itzhak (Weizmann Institute of Science)

Classification de Session: Cherenkov Imaging in particle and in nuclear physics experiments

Classification de thématique: Cherenkov imaging in particle and nuclear physics experiments