



Contribution ID: 499

Type: **Poster**

A novel high momentum particle identification detector for the next generation ALICE experiment

Thursday 16 August 2012 16:00 (2 hours)

A high momentum particle identification detector is under discussion by the ALICE experiment at CERN as part of its plan for high luminosity data taking in the next decade. The VHMPID detector is improving on well established ring imaging Cerenkov technology by using a pressurized gas volume in a focussing geometry to minimize the radial depth of the device. In this configuration the VHMPID can be paired with existing calorimeter modules in order to enable track by track PID measurements in fully reconstructed jets. The detector is expected to achieve unambiguous K, pi, p separation in the 5-25 GeV/c momentum range. In this talk we will present the detector technology, the proposed detector layout, detailed test beam results, and selected achievable physics measurements such as particle identified fragmentation functions in vacuum (p+p collisions) and in medium (A+A collisions) and hadro-chemistry measurements in single jets as well as jet-jet and photon-jet correlations.

Author: ALICE, Collaboration (CERN)

Co-author: BELLWIED, Rene (University of Houston (US))

Presenter: HARTON, Austin Vincent (Chicago State University (US))

Session Classification: Poster Session Reception

Track Classification: Experiment upgrades, new facilities, and instrumentation