QUARK MATTER 2015
Sep. 27 – Oct. 3, 2015 Kobe, Japan

Contribution ID: **506** Type: **Poster**

Measurement of the pT-integrated flow harmonics v2-v5 and the elliptic flow of KS0 in Pb+Pb collisions at sqrt(sNN)=2.76 TeV with the ATLAS detector

Tuesday 29 September 2015 16:30 (2 hours)

The measurement of centrality and pseudorapidity dependence of the pT-integrated flow harmonics, v2 up to v5, in Pb+Pb collisions at sqrt(sNN)=2.76 TeV is presented. The flow harmonics are measured with the standard event plane method and compared to the scalar
product method. The measurement is focused on the pT-integrated observables dominated by particles with low transverse momenta (pT< 2 GeV) and thus sensitive to the hydrodynamic response of the medium to the fluctuating initial conditions. The full potential of the ATLAS detector inner tracker is exploited, including charged particle track reconstruction at very low transverse momentum (pT > 100 MeV). To reduce uncertainties due to low efficiency and high fake rate, affecting especially particles with lowest transverse momenta, a unique data set of Pb+Pb collisions recorded with the solenoid magnet switched off is also used. A simplified tracking is performed to reconstruct two-point pixel tracklets with estimated minimum pT as low as 70 MeV. The event plane and scalar product methods are also used to measure v2 of KS0. The topological reconstruction of the KS0 $\longrightarrow \pi+\pi-$ decay in the ATLAS inner detector is used to measure KS0 elliptic flow in a wide range of transverse momentum and in the central rapidity region (|y|<1) as a function of collision centrality.

On behalf of collaboration:

ATLAS

Session Classification: Poster Session

Track Classification: Correlations and Fluctuations