

Measurement of azimuthal flow of soft and high-pT charged particles in 5.02 TeV Pb+Pb collisions with the ATLAS detector

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The new experimental data collected by the ATLAS experiment during the 2015 heavy ion LHC run offers new opportunities to study properties of Quark-Gluon Plasma at unprecedented high temperatures and densities. Study of the azimuthal anisotropy of produced particles not only constrains our understanding of initial conditions of nuclear collisions and soft particle collective dynamics but also sheds light on jet quenching phenomena via measurement of flow harmonics at high transverse momenta. A new ATLAS measurement of elliptic flow and higher order Fourier harmonics of charged particles in Pb+Pb collisions at 5.02 TeV in a wide range of transverse momenta, pseudorapidity ($|\eta| < 2.5$) and collision centrality will be presented. These measurements will be based on the Scalar Product, Event Plane and Two-Particle Correlation methods. Obtained results will be compared with experimental results at lower collision energies and discussed in the context of theoretical models.

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