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Elliptic Flow of Charged Particles in Pb-Pb Collisions at $s_{NN}=2.76$ TeV

K. Aamodt *et al.* (ALICE Collaboration)

Phys. Rev. Lett. **105**, 252302 – Published 13 December 2010

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ABSTRACT

We report the first measurement of charged particle elliptic flow in Pb-Pb

collisions at $s_{NN}=2.76$ TeV with the ALICE detector at the CERN Large Hadron

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Collider. The measurement is performed in the central pseudorapidity region

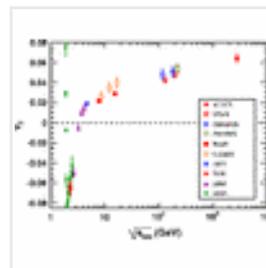
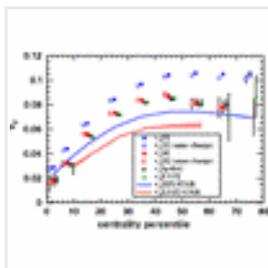
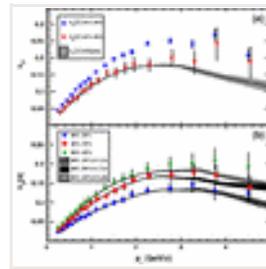
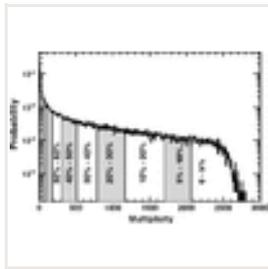
($|\eta| < 0.35$) and transverse momentum range $0.2 < p_t < 5.0$ GeV/c. The elliptic flow

is measured using the two-particle correlation method, averaged over

centrality bins. The results are compared with predictions from a hydrodynamic

model. The elliptic flow is found to be positive and increases with centrality.

transverse momentum and pseudorapidity is $0.087 \pm 0.002(\text{stat}) \pm 0.003(\text{syst})$ in the 40%–50% centrality class. The differential elliptic flow $v_2(p_T)$ reaches a maximum of 0.2 near $p_T=3$ GeV/c. Compared to RHIC Au-Au collisions at $\sqrt{s_{NN}}=200$ GeV, the elliptic flow increases by about 30%. Some hydrodynamic model predictions which include viscous corrections are in agreement with the observed increase.



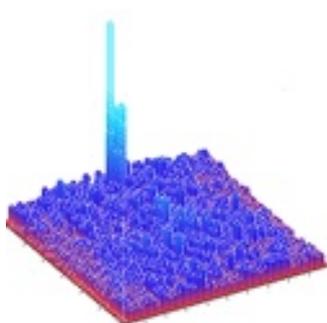
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Physics VIEWPOINT



A “Little Bang” arrives at the LHC

Published 13 December 2010

The first experiments to study the quark-gluon plasma at the LHC reveal that even at the hottest temperatures ever produced at a particle accelerator, this extreme state of matter remains the best example of an ideal liquid.

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K. Aamodt *et al.* (ALICE Collaboration)

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Centrality dependence of , , and production in Pb-Pb collisions at TeV, fishing, combined with traditional farming techniques, is precisely the brake on the subject of the political process, drawing on the experience of previous campaigns.

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