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Measurement of higher harmonic flow coefficients of identified hadrons in Pb-Pb collisions at $\sqrt{s_{NN}} = 2.76$ TeV

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The latest ALICE results on the centrality and transverse momentum dependence of v_2 , v_3 , v_4 and v_5 for π^\pm , K^\pm and $p+\bar{p}$ in Pb-Pb collisions at $\sqrt{s_{NN}} = 2.76$ TeV are presented. The values of these flow coefficients exhibit a clear mass ordering for $p_T < 3$ GeV/c for all harmonics. For transverse momentum values larger than about 3 GeV/c, mesons exhibit distinctive flow values compared to baryons, suggesting that coalescence might be the relevant particle production mechanism in this region. The experimental data for $p_T < 3$ GeV/c are described fairly well by the hydrodynamical model iEBE-VISHNU, which models the hydrodynamical expansion of the fireball using a value of $\eta/s = 0.08$, coupled to a hadronic cascade model (UrQMD). Finally, we find that predictions from A Multi-Phase Transition Model (AMPT) indicate the late hadronic rescattering stage contributes significantly to the mass splitting of azimuthal flow ($n=2-4$). These predictions are compared to our data.

On behalf of collaboration:

ALICE

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