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Elliptic flow of heavy-flavour decay electrons at $\sqrt{s_{NN}} = 2.76$ TeV with the ALICE detector

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Heavy-quarks, i.e. charm and beauty, are mainly produced in hard scattering processes in the early stages of high energy nucleus-nucleus collisions, carrying informations on the full evolution of the medium. Therefore, they are suited to investigate the deconfined medium formed in such collisions, the Quark-Gluon-Plasma (QGP). One of the experimental observables that is sensitive to the interactions of heavy quarks with the medium and their degree of thermalization is the azimuthal distribution of particles in the plane perpendicular to the beam direction.

In this contribution we will present the elliptic flow v_2 of electrons from the semi-leptonic decays of heavy-flavour hadrons at mid-rapidity with the ALICE detector for semi-central (20-40% centrality) Pb-Pb collisions at $\sqrt{s_{NN}} = 2.76$ TeV. At low transverse momentum, the heavy-flavour v_2 allows to probe the degree of thermalization of heavy quarks in the deconfined medium. At high transverse momentum it carries information on the dependence of energy loss on the in-medium path length of the heavy quarks. Comparisons with previous measurements obtained at lower collision energy at RHIC and with theoretical models will be presented as well.

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