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Type: **Experimental**

Identified charged hadron production in Pb-Pb collisions with event shape engineering

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Strong event-by-event fluctuations in the energy density of heavy-ion collisions have been recently observed with ALICE, with the measurement of non-zero odd harmonic anisotropic flow coefficients. This measurement suggests the possibility to select different event shapes for a definite centrality and colliding system. The event selection is based on the azimuthal distribution of produced particles (using the so-called “q-vector”).

For such shape selected events, the elliptic flow coefficient (v_2) is significantly different with respect to the unbiased events. Moreover, recent Monte-Carlo simulations show a strong correlation between the (final state) event shape selection and the (initial state) eccentricity of the collision. This opens the opportunity to characterize events

according to the initial geometry.

An approach to select the eccentricity of the event with the Event Shape Engineering (ESE) will be here presented. Then the effect of this selection on identified particle spectra, mean transverse momentum and v_2 of charged particles in heavy-ion collisions at 2.76 TeV center-of-mass energy will be discussed.

Author: TANGARO, Marco-Antonio (Universita e INFN (IT))

Presenter: TANGARO, Marco-Antonio (Universita e INFN (IT))

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