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Study of background effects for jet analyses with Run 3 data in ALICE

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In heavy-ion collisions, jets can serve as a probe of the hot QCD medium, since they are produced in hard scatterings early in the collision and traverse and interact with the hot medium. Measuring jets at low transverse momentum and large R in the complex environment of central Pb–Pb collisions is a challenging task, due to the large background for the underlying event. In order to be sensitive to jet signals, the background must be accounted for and removed. Based on the high statistics and high precision data samples obtained in Run 3, we have conducted an in-depth study of background subtraction which will be used for correction of jet measurements with Run 3 data using O2, a new analysis framework developed in ALICE for Run 3.
In this poster, we will present the first look at background subtraction with ALICE in Run 3, evaluating the subtraction performance on a variety of physics observables in order to fully validate the framework for Run 3 jet analyses.

Category

Experiment

Collaboration

ALICE

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