

# Study of particle production using event shape observables in pp collisions with ALICE

PONENTE:

Dr. Omar Vázquez Rueda  
University of Houston (US)



Event classifiers based on the charged-particle multiplicity have been extensively used in pp collisions by the ALICE collaboration at the LHC. These event classifiers became very useful tools since the observation of fluid-like behavior in high-multiplicity pp collisions, such as radial and anisotropic flow and strangeness enhancement. However, one drawback of the multiplicity-based event classifiers is that requiring a high charged-particle multiplicity biases the event sample towards hard processes like multijet final states. These biases blur the possible effects of multi-parton interactions (MPI) and make it difficult to pin down the origins of fluid-like effects in small collision systems. This contribution explores the use of event classifiers based on event topologies, such as transverse sphericity, relative transverse activity classifier and a new event classifier, the charged-particle flattenicity. New ALICE measurements on the production of pions, kaons, protons, and unidentified charged particles at midrapidity as a function of these classifiers in pp collisions will be presented. I will discuss how specific selections of event classifiers based on event topologies can be used to select events more sensitive to MPI and less sensitive to final-state hard processes. The results will be compared with predictions from QCD-inspired Monte Carlo event generators such as PYTHIA and EPOS

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