

Collective effects in PYTHIA8 and EPOS4 simulations of pp and p–Pb collisions

Tuesday, June 4, 2024 6:35 PM (1 minute)

Measurements of azimuthal correlations provide valuable information on the properties of the system created in collisions of hadrons and nuclei at high energy. They revealed an unexpected collective behaviour in small collision systems similar to the one exhibited by the quark–gluon plasma in heavy-ion collisions. In this talk, the origin of collectivity in small collision systems, which is still not understood, is addressed by confronting different tunes of PYTHIA8 and EPOS4 event generators using measurements of azimuthal correlations for inclusive and identified particles focusing on strange and multi-strange particles. In particular, anisotropic flow coefficients measured using two- and four-particle correlations with various pseudorapidity gaps and balance functions are reported in different multiplicity classes of pp collisions at $\sqrt{s} = 13.6$ TeV and p–Pb collisions at $\sqrt{s_{NN}} = 5.02$ TeV. The results are compared with the available experimental data.

Author: MANEA, Alexandru (Institute of Space Science)

Co-authors: Dr DOBRIN, Alexandru Florin (Institute of Space Science); Dr DANU, Andrea (Institute of Space Science); Mrs BRANDIBUR, Catalina Diana (Institute of Space Science)

Presenter: MANEA, Alexandru (Institute of Space Science)

Session Classification: Posters

Track Classification: Collective effects in small systems