



Contribution ID: 258

Type: Oral presentation

Strange particle collectivity in pPb and PbPb

Thursday, 7 April 2022 14:40 (20 minutes)

The collective behavior of \mathbf{K}^0_S and $\Lambda/\bar{\Lambda}$ strange hadrons is studied using the scalar-product and multiparticle correlation methods. Proton-lead (pPb) collisions at the nucleon-nucleon center-of-mass energy $\sqrt{s_{NN}} = 8.16$ TeV and lead-lead (PbPb) collisions at $\sqrt{s_{NN}} = 5.02$ TeV are investigated. The data samples were collected by the CMS experiment at the LHC. Non-flow effects in the pPb collisions are investigated by a subevent cumulant analysis and by excluding events where a jet with transverse momentum greater than 20 GeV is present. The jet exclusion study allows for a quantitative estimate of the dijet contribution to higher-order cumulants in the pPb system. For the first time, the collectivity of strange particles is observed in pPb collisions. A comparison of the pPb and PbPb results for both strange particles and charged hadrons shows how event-by-event flow fluctuations are affected by the system size.

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