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Particle production and collectivity in high-multiplicity pp and pPb collisions at the LHC with CMS

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Studies of particle yields and azimuthal correlations for inclusive and identified charged particles are presented in small collision systems of pp and pPb at the LHC with the CMS detector. Charged pions, kaons, and protons are identified via their energy loss in the CMS silicon tracker. The pT spectra and integrated yields are studied as a function of multiplicity and center-of-mass energies. In high-multiplicity events, a long-range near-side correlation, known as the “ridge”, has been observed, similar to that in AA collisions that is often attributed to a fluid-like QGP. CMS studied this correlation in detail by extracting the anisotropy Fourier coefficients, v_n, for different particle species, and also via two- and multi-particle correlations. Latest results in pp at 13 TeV and pPb at 8.16 TeV are presented this talk, which provide important insights to the nature of the ridge in small collision systems.

List of tracks

Small systems (pA)

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