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Search for elliptic azimuthal anisotropies in photon-proton and pomeron-Pb interactions using rapidity gaps at pPb collisions with the CMS experiment

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Since 2011 a wide variety of measurements suggest the existence of strong collectivity in collisions of small systems such as proton-proton (pp) and proton-nucleus (pPb) with hydrodynamic models and gluon saturation in the initial state as two theory alternatives showing consistency with the observations. These results raise the question as to whether such phenomena may be present in even smaller systems. Just recently ATLAS, ALEPH, and ZEUS collaborations have extended the studies to photon-Pb, electron-electron (ee), and electron-proton (ep) systems respectively. This talk will summarize the latest CMS results on the study of long-range particle correlations extended to photon-proton and pomeron-Lead interactions using pPb collisions at 8.16 TeV . Such interactions provide unique initial conditions with event multiplicity lower than in pp and pPb systems but comparable with ee and ep systems.

Experiment/Theory

CMS

Affiliation

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