## Quark Matter 2023



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## Exploring the strangeness enhancement and collective-like effects in small collision systems with ALICE at LHC

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Recent measurements in proton-proton (pp) and proton-lead (p–Pb) collisions have shown features that are reminiscent of those observed in lead-lead (Pb–Pb) collisions, such as near-side long-range correlations, mass-dependent hardening of  $p_{\rm T}$  spectra, strangeness enhancement etc. Therefore, one of the key challenges today is understanding the origin of strangeness enhancement in small collision systems at very high energies, i.e. the increase of (multi-)strange hadron yields relative to non-strange hadron yields with increasing charged-particle multiplicity ( $dN_{\rm ch}/d\eta_{|\eta|} < 0.5 < 100$ ) and saturation for high multiplicities.

We report the new preliminary mid-rapidity measurement of the transverse momentum spectra and yields of  $K_s^0$ ,  $\Lambda$  and  $\overline{\Lambda}$  in the p–Pb collision system at  $\sqrt{s_{\rm NN}} = 8.16$  TeV. The ratio of baryon to meson yields and the nuclear modification factor will also be included. These observables are used to study the hadronization process in small collision systems. Results have been obtained in several multiplicity bins, so that a comparison to lower energy p–Pb results and to similar measurements in pp and Pb–Pb collisions can be performed. Finally, the comparison to phenomenological models including the latest version EPOS4 and Pythia8 will be discussed.

## Category

Experiment

## Collaboration (if applicable)

ALICE Collaboration

Primary author: Ms SHARMA, Meenakshi (University of Jammu (IN))

Co-author: BHASIN, Anju (University of Jammu (IN))

Presenter: BHASIN, Anju (University of Jammu (IN))

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