



Contribution ID: 102 Contribution code: POS-RES-03

Type: Poster

## Event shape and multiplicity dependence of $K^*(892)^\pm$ mesons at mid-rapidity in pp collisions at $\sqrt{s} = 13$ TeV with ALICE at the LHC

Tuesday 14 June 2022 17:16 (1 minute)

Short-lived resonances can probe strongly interacting matter produced in high-energy heavy-ion collisions. In particular,  $K(892)^\pm$  is important because of its very short lifetime (around 4 fm/c), which is comparable to the partonic plasma phase. Also, its short lifetime can be used to study the rescattering and regeneration effect in the hadronic phase. An event shape observable like transverse sphericity is sensitive to hard and soft processes. Such an observable can be used as a tool to disentangle pp collisions into isotropic (dominated by soft QCD) and jetty (dominated by hard QCD) events. In this work, we present the latest developments in  $K(892)^\pm$  analysis as a function of event multiplicity and transverse sphericity exploiting pp collisions at  $\sqrt{s} = 13$  TeV collected by ALICE. The results obtained in this analysis will be compared to those obtained for other soft particles and the  $p_T$ -differential ratio of  $K^*(892)^\pm$  yields to those of long-lived stable hadrons in the same multiplicity and transverse sphericity intervals will also be presented.

### Present via

Online

**Primary author:** DEB, Suman (Indian Institute of Technology Indore (IN))

**Presenter:** DEB, Suman (Indian Institute of Technology Indore (IN))

**Session Classification:** Poster

**Track Classification:** Resonances and Hyper-nuclei