



Contribution ID: 856

Type: **Experimental poster**

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

Tuesday 17 May 2022 19:00 (1 hour)

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), comparable to the partonic plasma phase. Also, its short lifetime can be used to study the rescattering and regeneration effects 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 categorize pp collisions into isotropic (dominated by soft QCD) and jetty (dominated by hard QCD) events. This work presents the latest developments in  $K(892)^\pm$  analysis as a function of event multiplicity and transverse sphericity using pp collisions at  $\sqrt{s} = 13$  TeV collected by ALICE. The results obtained in this analysis will be compared to those obtained for other light-flavor hadrons. 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.

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**Session Classification:** Poster Session I

**Track Classification:** QCD Physics