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## Study of $K_1$ meson production in $pp$ collisions with ALICE

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$K_1$  and  $K^*$  mesons are chiral partners whose vacuum widths are smaller than 100 MeV. This makes these mesons ideal to study possible effects of chiral symmetry restoration in heavy-ion collisions. In a recent theoretical study, the  $K_1/K^*$  ratio in heavy-ion collisions is expected to be substantially larger than the statistical hadronisation model predictions. The study of the  $K_1/K^*$  ratio as a function of multiplicity in different collision systems ranging from  $pp$  to central heavy-ion collisions can provide crucial information on effects of the chiral symmetry restoration. The ALICE detector has an excellent capability of particle identification, so the  $K_1$  meson can be measured via its hadronic decay channels such as  $K_1^- \rightarrow \rho^0 K^-$  and  $K_1^- \rightarrow \pi^- \bar{K}^{*0}$ . In this poster, the feasibility study of the  $K_1$  measurement in  $pp$  collisions with ALICE is presented.

### Category

Experiment

### Collaboration (if applicable)

ALICE

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**Session Classification:** Poster Session

**Track Classification:** Light and strange flavor