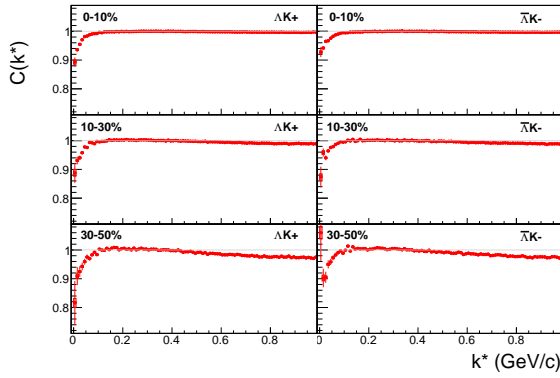


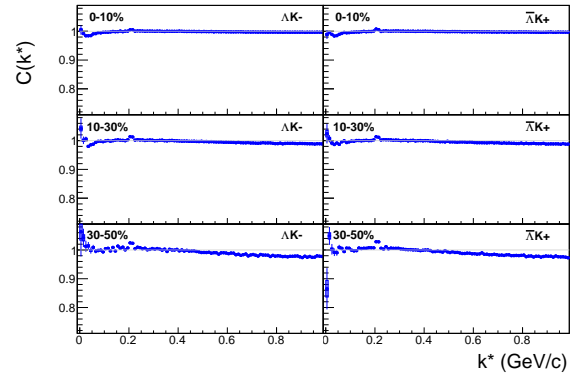
## 0.1 Typical Correlation Function Construction

Typically, in practice,  $B(k^*)$  is obtained by forming mixed-event pairs, i.e. particles from a given event are paired with particles from  $N_{mix}(= 5)$  other events, and these pairs are then binned in  $k^*$ . In forming the background distribution, it is important to mix only similar events; mixing events with different phase-spaces can lead to artificial signals in the correlaton function. Therefore, in this analysis, we mix events with primary vertices within 2 cm and centralities within 5% of each other. Also note, a vertex correction is also applied to each event, which essentially recenters the the primary vertices to  $z = 0$ .

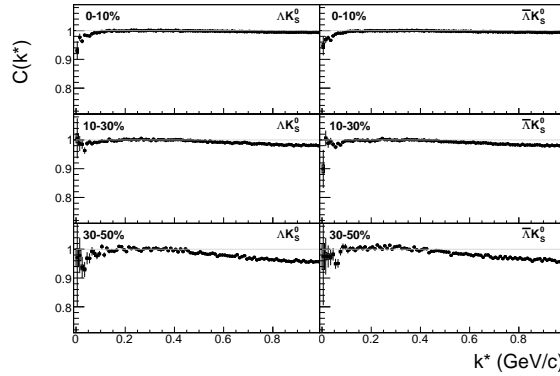
Figures ??, ??, and ?? show the correlation functions for all centalities studied for  $\Lambda K_S^0(\bar{\Lambda} K_S^0)$ ,  $\Lambda K^+(\bar{\Lambda} K^-)$ , and  $\Lambda K^-(\bar{\Lambda} K^+)$ , respectively. All were normalized in the range  $0.32 < k^* < 0.4$  GeV/c.



(a)  $\Lambda K^+$  (left) and  $\bar{\Lambda} K^-$  (right) correlations for 0-10% (top), 10-30%(middle), and 30-50%(bottom) centralities.

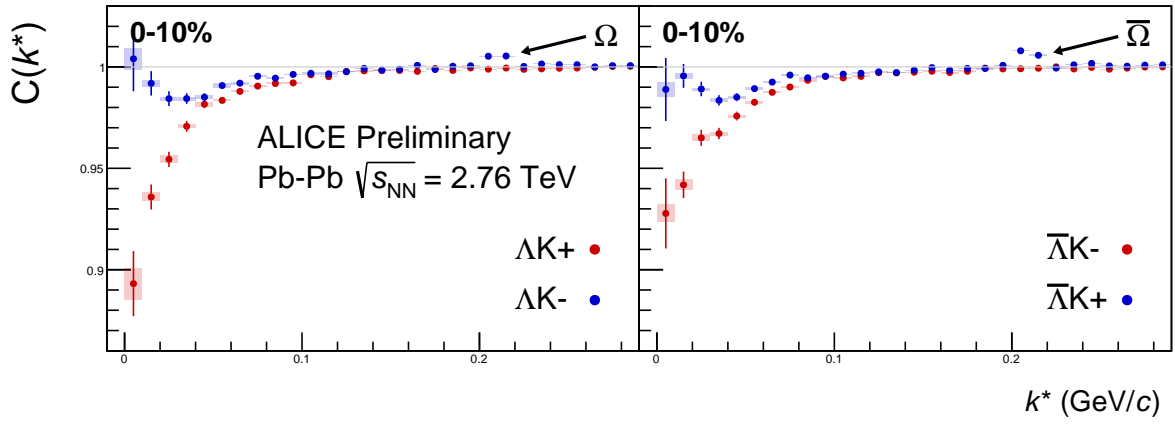


(b)  $\Lambda K^-$  (left) and  $\bar{\Lambda} K^+$  (right) correlations for 0-10% (top), 10-30%(middle), and 30-50%(bottom) centralities. The peak at  $k^* \approx 0.2$  GeV/c is due to the  $\Omega^-$  resonance.



(c)  $\Lambda K_S^0$  (left) and  $\bar{\Lambda} K_S^0$  (right) correlations for 0-10% (top), 10-30%(middle), and 30-50%(bottom) centralities.

**Fig. 1:**  $\Lambda K$  and  $\bar{\Lambda} \bar{K}$  correlation functions for 0-10%, 10-30%, and 30-50% centralities. The lines represent the statistical errors, while the boxes represent the systematic errors.



**Fig. 2:** Correlation Functions:  $\Lambda K^+$  vs  $\Lambda K^-$  ( $\bar{\Lambda} K^+$  vs  $\bar{\Lambda} K^-$ ) for 0-10% centrality. The peak in  $\Lambda K^-$  ( $\bar{\Lambda} K^+$ ) at  $k^* \approx 0.2$  GeV/c is due to the  $\Omega^-$  resonance. The lines represent the statistical errors. (NOTE: This figure is slightly dated, and a new one will be generated which includes both statistical and systematic uncertainties)