

0.0.1 Results: ΛK_S^0 and ΛK^\pm : Fit Method Comparisons

In Figure 1, we show extracted fit parameters for the case of $\Lambda K^+(\bar{\Lambda} K^-)$ sharing radii with $\Lambda K^-(\bar{\Lambda} K^+)$. The figure shows results for three different treatments of the non-femtoscopic background: a polynomial fit to THERMINATOR 2 simulation to model the background (circles), a linear fit to the data to model the background (squares), and the Stavinsky method (crosses).

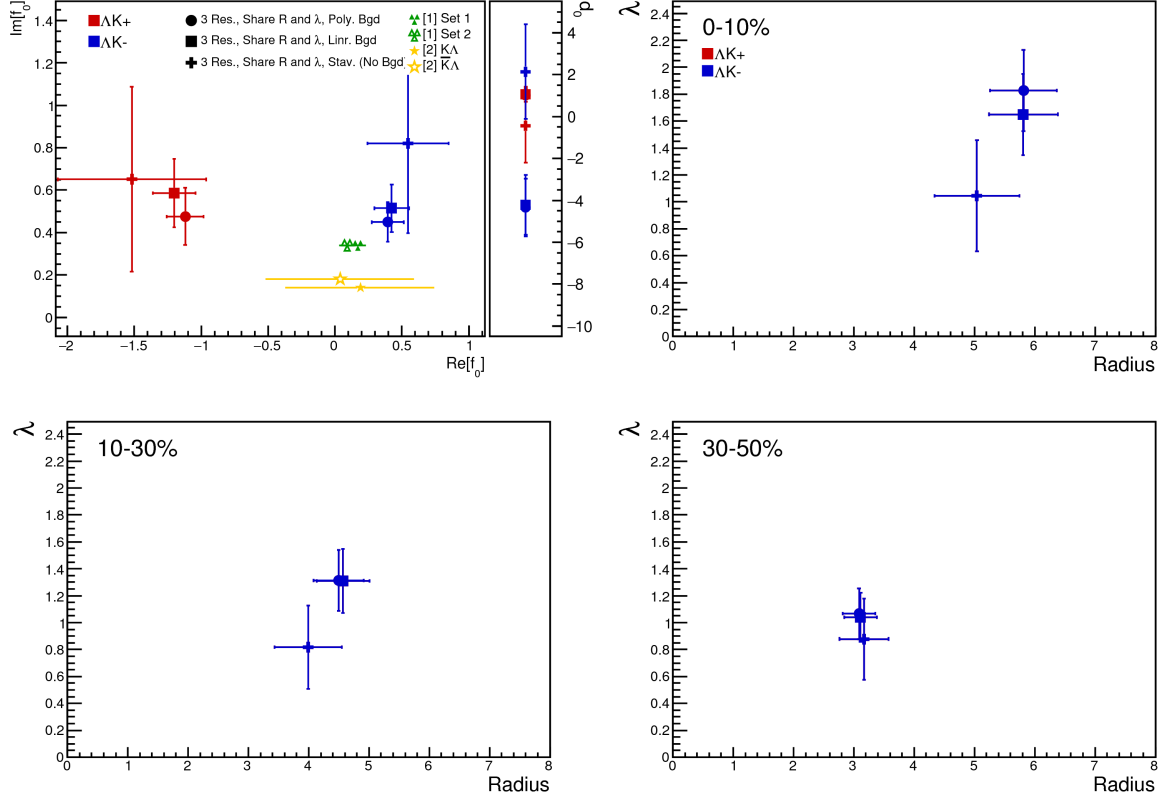


Fig. 1: Extracted fit results for all of our $\Lambda(\bar{\Lambda})K^\pm$ systems across all studied centrality bins (0-10%, 10-30%, 30-50%). The $\Lambda K^+(\bar{\Lambda} K^-)$ and $\Lambda K^-(\bar{\Lambda} K^+)$ systems share both a radius and a λ parameter for each centrality bin (i.e. 3 total radius parameters, 3 total λ parameters). The figure shows results for three different treatments of the non-femtoscopic background: a polynomial fit to THERMINATOR 2 simulation to model the background (circles), a linear fit to the data to model the background (squares), and the Stavinsky method (crosses). Note, ΛK^+ on the plot is shorthand for ΛK^+ and $\bar{\Lambda} K^-$ ($\Lambda K^+(\bar{\Lambda} K^-)$), and similar for the others. The green [?] and yellow [?] points show theoretical predictions made using chiral perturbation theory.

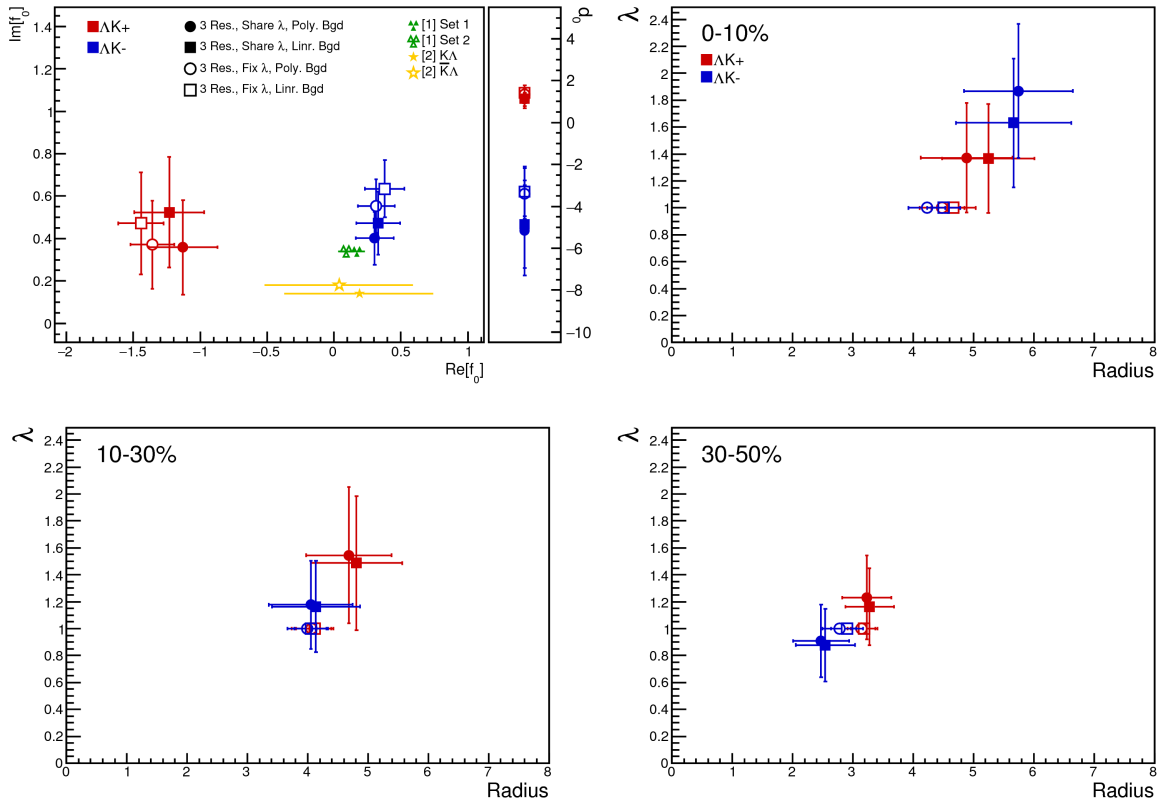


Fig. 2: Compare Fit Parameters: Free vs fixed λ

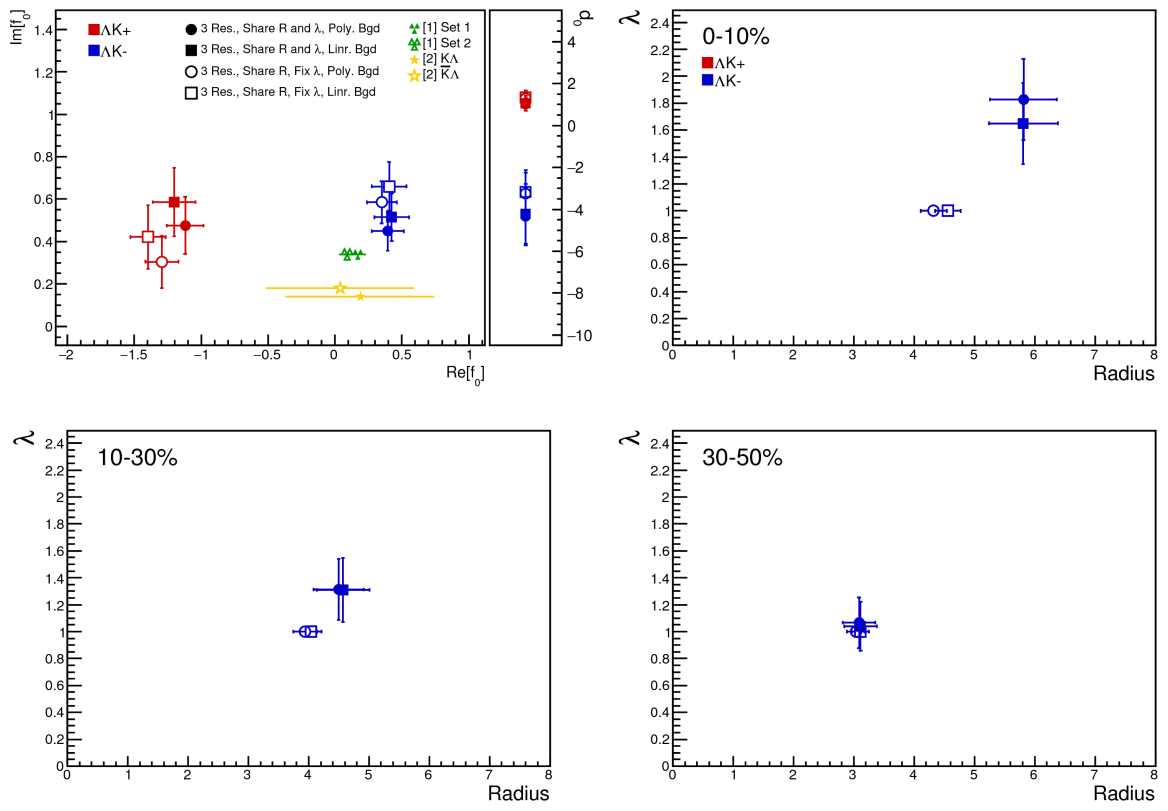


Fig. 3: Compare Fit Parameters: Free vs fixed λ (sharing radii)

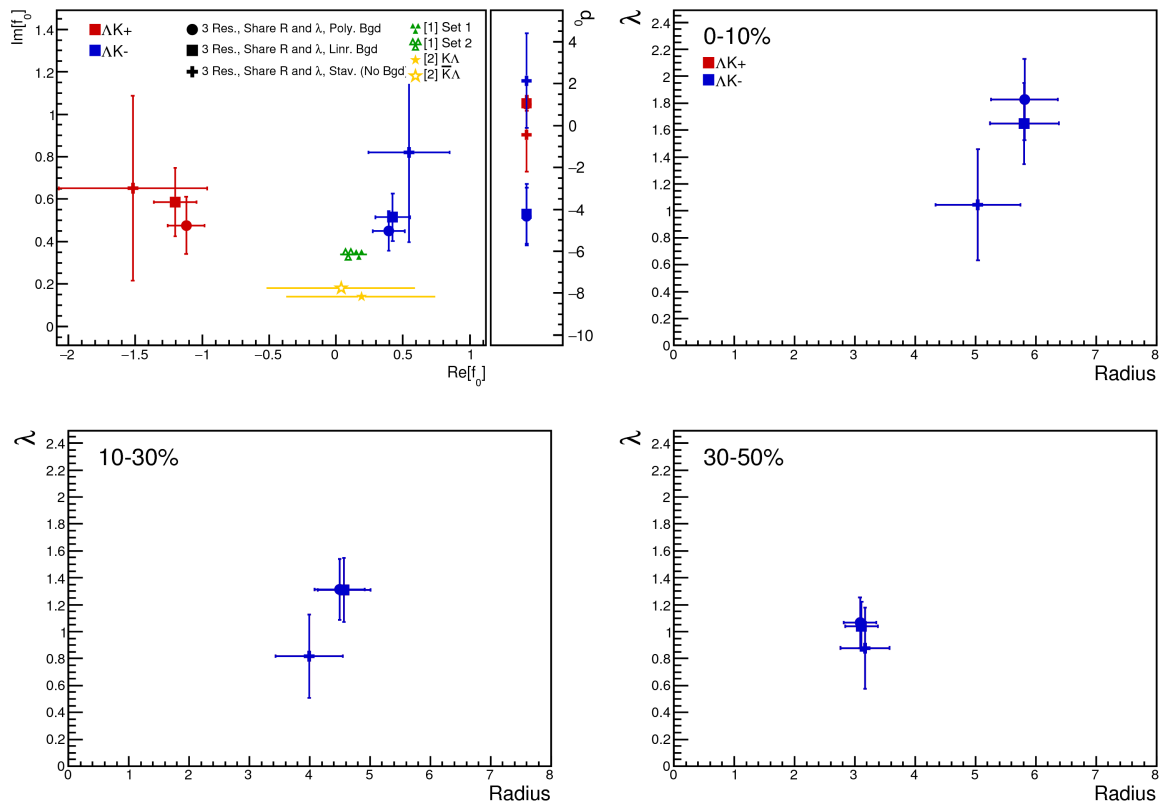


Fig. 4: Compare Fit Parameters: Background methods (sharing radii)

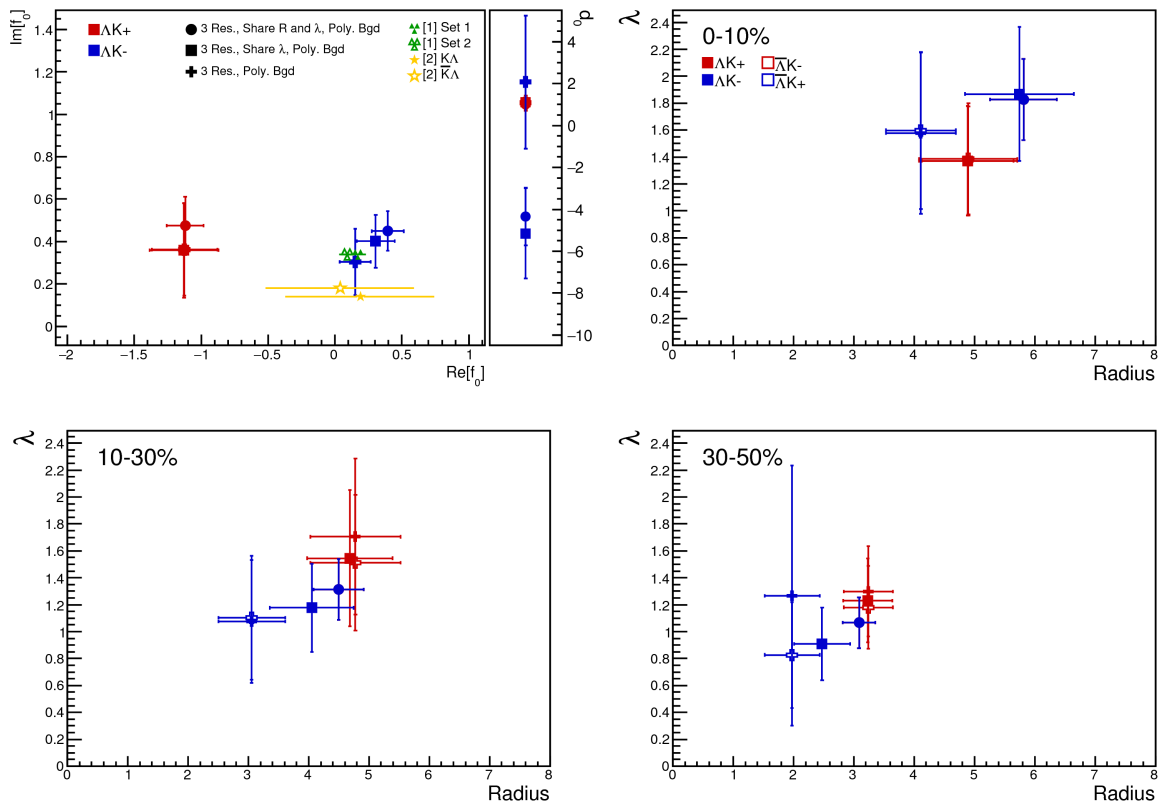


Fig. 5: Compare Fit Parameters: Shared vs. Separate Radii