Fit Results $\Lambda(\bar{\Lambda})K^0_S$

System	Centrality	Fit Parameters				
		λ	R	$\mathbb{R}f_0$	$\mathbb{I}f_0$	d_0
ΛK^0_S & $\bar{\Lambda}K^0_S$	0-10%	0.60 ± 0.82 (stat.) ± 0.16 (sys.)	2.74 ± 0.49 (stat.) ± 0.33 (sys.)	-0.39 ± 0.10 (stat.) ± 0.16 (sys.)	0.17 ± 0.11 (stat.) ± 0.13 (sys.)	1.50 ± 0.91 (stat.) ± 0.62 (sys.)
	10-30%		2.42 ± 0.45 (stat.) ± 0.23 (sys.)			
	30-50%		1.79 ± 0.32 (stat.) ± 0.11 (sys.)			

Table 1: Fit Results $\Lambda(\bar{\Lambda})K^0_S$, with 3 residual correlations included. Each pair is fit simultaneously with its conjugate (ie. ΛK^0_S with $\bar{\Lambda}K^0_S$) across all centralities (0-10%, 10-30%, 30-50%), for a total of 6 simultaneous analyses in the fit. A single λ parameter is shared amongst all. Each analysis has a unique normalization parameter. The radii are shared between analyses of like centrality, as these should have similar source sizes. The scattering parameters ($\mathbb{R}f_0$, $\mathbb{I}f_0$, d_0) are shared amongst all. The background is modeled by a (6^{th}-)degree polynomial fit to THERMINATOR simulation. The fit is done on the data with only statistical error bars. The errors marked as "stat." are those returned by MINUIT. The errors marked as "sys." are those which result from my systematic analysis (as outlined in Section **??**).

Fit Results $\Lambda(\bar{\Lambda})K^0_S$

System	Centrality	Fit Parameters				
		λ	R	$\mathbb{R}f_0$	$\mathbb{I}f_0$	d_0
ΛK^0_S & $\bar{\Lambda}K^0_S$	0-10%	0.60 ± 0.74 (stat.) ± 0.16 (sys.)	2.88 ± 0.56 (stat.) ± 0.33 (sys.)	-0.39 ± 0.10 (stat.) ± 0.16 (sys.)	0.25 ± 0.16 (stat.) ± 0.13 (sys.)	1.96 ± 0.46 (stat.) ± 0.62 (sys.)
	10-30%		2.30 ± 0.46 (stat.) ± 0.23 (sys.)			
	30-50%		1.69 ± 0.32 (stat.) ± 0.11 (sys.)			

Table 2: Fit Results $\Lambda(\bar{\Lambda})K^0_S$, with 3 residual correlations included. Each pair is fit simultaneously with its conjugate (ie. ΛK^0_S with $\bar{\Lambda}K^0_S$) across all centralities (0-10%, 10-30%, 30-50%), for a total of 6 simultaneous analyses in the fit. A single λ parameter is shared amongst all. Each analysis has a unique normalization parameter. The radii are shared between analyses of like centrality, as these should have similar source sizes. The scattering parameters ($\mathbb{R}f_0$, $\mathbb{I}f_0$, d_0) are shared amongst all. The background is modeled with a linear form. The fit is done on the data with only statistical error bars. The errors marked as "stat." are those returned by MINUIT. The errors marked as "sys." are those which result from my systematic analysis (as outlined in Section **??**).

Fit Results $\Lambda(\bar{\Lambda})K^0_S$

System	Centrality	Fit Parameters				
		λ	R	$\mathbb{R}f_0$	$\mathbb{I}f_0$	d_0
ΛK^0_S & $\bar{\Lambda}K^0_S$	0-10%	1.11 ± 0.63 (stat.) ± 0.16 (sys.)	6.22 ± 2.60 (stat.) ± 0.33 (sys.)	0.21 ± 0.82 (stat.) ± 0.16 (sys.)	1.19 ± 1.20 (stat.) ± 0.13 (sys.)	-5.25 ± 6.46 (stat.) ± 0.62 (sys.)
	10-30%		4.90 ± 2.04 (stat.) ± 0.23 (sys.)			
	30-50%		3.00 ± 1.24 (stat.) ± 0.11 (sys.)			

Table 3: Fit Results $\Lambda(\bar{\Lambda})K^0_S$, with 3 residual correlations included, using the Stavinsky method to reduce the non-femtoscopic background. Each pair is fit simultaneously with its conjugate (ie. ΛK^0_S with $\bar{\Lambda}K^0_S$) across all centralities (0-10%, 10-30%, 30-50%), for a total of 6 simultaneous analyses in the fit. A single λ parameter is shared amongst all. Each analysis has a unique normalization parameter. The radii are shared between analyses of like centrality, as these should have similar source sizes. The scattering parameters ($\mathbb{R}f_0$, $\mathbb{I}f_0$, d_0) are shared amongst all. The background is assumed flat. The fit is done on the data with only statistical error bars. The errors marked as "stat." are those returned by MINUIT. The errors marked as "sys." are those which result from my systematic analysis (as outlined in Section **??**).

Fit Results $\Lambda(\bar{\Lambda})K^{\pm}$

System	Centrality	Pair Type	Fit Parameters				
			λ	R	$\mathbb{R}f_0$	$\mathbb{I}f_0$	d_0
ΛK^+ & $\bar{\Lambda}K^-$	0-10%	ΛK^+	1.37 ± 0.40 (stat.) ± 0.28 (sys.)	4.90 ± 0.81 (stat.) ± 0.54 (sys.)	-1.13 ± 0.25 (stat.) ± 0.36 (sys.)	0.36 ± 0.22 (stat.) ± 0.23 (sys.)	1.09 ± 0.33 (stat.) ± 0.53 (sys.)
		$\bar{\Lambda}K^-$	1.39 ± 0.41 (stat.) ± 0.33 (sys.)				
	10-30%	ΛK^+	1.70 ± 0.58 (stat.) ± 0.36 (sys.)	4.78 ± 0.75 (stat.) ± 0.42 (sys.)			
		$\bar{\Lambda}K^-$	1.51 ± 0.50 (stat.) ± 0.29 (sys.)				
	30-50%	ΛK^+	1.30 ± 0.34 (stat.) ± 0.31 (sys.)	3.24 ± 0.40 (stat.) ± 0.32 (sys.)			
		$\bar{\Lambda}K^-$	1.18 ± 0.31 (stat.) ± 0.19 (sys.)				
ΛK^- & $\bar{\Lambda}K^+$	0-10%	ΛK^-	1.58 ± 0.60 (stat.) ± 0.24 (sys.)	4.11 ± 0.58 (stat.) ± 0.81 (sys.)	0.15 ± 0.11 (stat.) ± 0.14 (sys.)	0.30 ± 0.16 (stat.) ± 0.11 (sys.)	2.07 ± 3.17 (stat.) ± 1.33 (sys.)
		$\bar{\Lambda}K^+$	1.60 ± 0.58 (stat.) ± 0.27 (sys.)				
	10-30%	ΛK^-	1.08 ± 0.46 (stat.) ± 0.27 (sys.)	3.05 ± 0.55 (stat.) ± 0.60 (sys.)			
		$\bar{\Lambda}K^+$	1.10 ± 0.46 (stat.) ± 0.26 (sys.)				
	30-50%	ΛK^-	1.27 ± 0.97 (stat.) ± 0.57 (sys.)	1.98 ± 0.46 (stat.) ± 0.38 (sys.)			
		$\bar{\Lambda}K^+$	0.83 ± 0.39 (stat.) ± 0.37 (sys.)				

Table 4: Fit Results $\Lambda(\bar{\Lambda})K^{\pm}$, with 3 residual correlations included. Each pair is fit simultaneously with its conjugate (ie. ΛK^+ with $\bar{\Lambda}K^-$ and ΛK^- with $\bar{\Lambda}K^+$) across all centralities (0-10%, 10-30%, 30-50%), for a total of 6 simultaneous analyses in the fit. Each analysis has a unique λ and normalization parameter. The radii are shared between analyses of like centrality, as these should have similar source sizes. The scattering parameters ($\mathbb{R}f_0$, $\mathbb{I}f_0$, d_0) are shared amongst all. The background is modeled by a (6^{th}-)degree polynomial fit to THERMINATOR simulation. The fit is done on the data with only statistical error bars. The errors marked as "stat." are those returned by MINUIT. The errors marked as "sys." are those which result from my systematic analysis (as outlined in Section **??**).

Fit Results $\Lambda(\bar{\Lambda})K^{\pm}$

System	Centrality	Fit Parameters				
		λ	R	$\mathbb{R}f_0$	$\mathbb{I}f_0$	d_0
ΛK^+ & $\bar{\Lambda}K^-$	0-10%	1.37 ± 0.41 (stat.) ± 0.28 (sys.)	4.89 ± 0.76 (stat.) ± 0.54 (sys.)	-1.13 ± 0.26 (stat.) ± 0.36 (sys.)	0.36 ± 0.22 (stat.) ± 0.23 (sys.)	1.11 ± 0.32 (stat.) ± 0.53 (sys.)
	10-30%	1.54 ± 0.51 (stat.) ± 0.36 (sys.)	4.68 ± 0.71 (stat.) ± 0.42 (sys.)			
	30-50%	1.23 ± 0.31 (stat.) ± 0.31 (sys.)	3.23 ± 0.41 (stat.) ± 0.32 (sys.)			
ΛK^- & $\bar{\Lambda}K^+$	0-10%	1.87 ± 0.50 (stat.) ± 0.24 (sys.)	5.75 ± 0.90 (stat.) ± 0.81 (sys.)	0.30 ± 0.14 (stat.) ± 0.14 (sys.)	0.40 ± 0.12 (stat.) ± 0.11 (sys.)	-5.15 ± 2.15 (stat.) ± 1.33 (sys.)
	10-30%	1.18 ± 0.33 (stat.) ± 0.27 (sys.)	4.05 ± 0.69 (stat.) ± 0.60 (sys.)			
	30-50%	0.91 ± 0.27 (stat.) ± 0.57 (sys.)	2.47 ± 0.46 (stat.) ± 0.38 (sys.)			

Table 5: Fit Results $\Lambda(\bar{\Lambda})K^{\pm}$, with 3 residual correlations included. Each pair is fit simultaneously with its conjugate (ie. ΛK^+ with $\bar{\Lambda}K^-$ and ΛK^- with $\bar{\Lambda}K^+$) across all centralities (0-10%, 10-30%, 30-50%), for a total of 6 simultaneous analyses in the fit. A λ parameter is shared between a pair and its conjugate for each centrality. Each analysis has a unique normalization parameter. The radii are shared between analyses of like centrality, as these should have similar source sizes. The scattering parameters ($\mathbb{R}f_0$, $\mathbb{I}f_0$, d_0) are shared amongst all. The background is modeled by a (6^{th}-)degree polynomial fit to THERMINATOR simulation. The fit is done on the data with only statistical error bars. The errors marked as "stat." are those returned by MINUIT. The errors marked as "sys." are those which result from my systematic analysis (as outlined in Section **??**).

Fit Results $\Lambda(\bar{\Lambda})K^{\pm}$

System	Centrality	Fit Parameters				
		λ	R	$\mathbb{R}f_0$	$\mathbb{I}f_0$	d_0
ΛK^+ & $\bar{\Lambda}K^-$	0-10%	1.83 ± 0.32 (stat.) ± 0.28 (sys.)	5.81 ± 0.57 (stat.) ± 0.54 (sys.)	-1.12 ± 0.14 (stat.) ± 0.36 (sys.)	0.48 ± 0.14 (stat.) ± 0.23 (sys.)	1.01 ± 0.31 (stat.) ± 0.53 (sys.)
	10-30%	1.31 ± 0.23 (stat.) ± 0.36 (sys.)	4.50 ± 0.42 (stat.) ± 0.42 (sys.)			
ΛK^+ & $\bar{\Lambda}K^-$	30-50%	1.07 ± 0.19 (stat.) ± 0.31 (sys.)	3.09 ± 0.27 (stat.) ± 0.32 (sys.)	0.39 ± 0.12 (stat.) ± 0.14 (sys.)	0.45 ± 0.10 (stat.) ± 0.11 (sys.)	-4.35 ± 1.40 (stat.) ± 1.33 (sys.)

Table 6: Fit Results $\Lambda(\bar{\Lambda})K^{\pm}$, with 3 residual correlations included. All $\Lambda K^{\pm}$ analyses are fit simultaneously across all centralities (0-10%, 10-30%, 30-50%). Scattering parameters ($\mathbb{R}f_0$, $\mathbb{I}f_0$, d_0) are shared between pair-conjugate systems (i.e. a parameter set describing the ΛK^+ & $\bar{\Lambda}K^-$ system, and a separate set describing the ΛK^- & $\bar{\Lambda}K^+$ system). For each centrality, a radius and λ parameters are shared between all pairs (ΛK^+, $\bar{\Lambda}K^-$, ΛK^-, $\bar{\Lambda}K^+$). Each analysis has a unique normalization parameter. The background is modeled by a (6^{th}-)degree polynomial fit to THERMINATOR simulation. The fit is done on the data with only statistical error bars. The errors marked as "stat." are those returned by MINUIT. The errors marked as "sys." are those which result from my systematic analysis (as outlined in Section **??**).

Fit Results $\Lambda(\bar{\Lambda})K^{\pm}$

System	Centrality	Fit Parameters				
		λ	R	$\mathbb{R}f_0$	$\mathbb{I}f_0$	d_0
ΛK^+ & $\bar{\Lambda}K^-$	0-10%	1.91 ± 0.46 (stat.) ± 0.28 (sys.)	5.83 ± 0.64 (stat.) ± 0.54 (sys.)	-1.09 ± 0.22 (stat.) ± 0.36 (sys.)	0.44 ± 0.20 (stat.) ± 0.23 (sys.)	0.99 ± 0.35 (stat.) ± 0.53 (sys.)
	10-30%	1.39 ± 0.36 (stat.) ± 0.36 (sys.)	4.53 ± 0.48 (stat.) ± 0.42 (sys.)			
	30-50%	1.02 ± 0.24 (stat.) ± 0.31 (sys.)	2.99 ± 0.30 (stat.) ± 0.32 (sys.)			
ΛK^- & $\bar{\Lambda}K^+$	0-10%	1.83 ± 0.37 (stat.) ± 0.24 (sys.)	5.83 ± 0.64 (stat.) ± 0.81 (sys.)	0.40 ± 0.12 (stat.) ± 0.14 (sys.)	0.45 ± 0.11 (stat.) ± 0.11 (sys.)	-4.37 ± 1.47 (stat.) ± 1.33 (sys.)
	10-30%	1.31 ± 0.26 (stat.) ± 0.27 (sys.)	4.53 ± 0.48 (stat.) ± 0.60 (sys.)			
	30-50%	1.11 ± 0.24 (stat.) ± 0.57 (sys.)	2.99 ± 0.30 (stat.) ± 0.38 (sys.)			

Table 7: Fit Results $\Lambda(\bar{\Lambda})K^{\pm}$, with 3 residual correlations included. All $\Lambda K^{\pm}$ analyses are fit simultaneously across all centralities (0-10%, 10-30%, 30-50%). Scattering parameters ($\mathbb{R}f_0$, $\mathbb{I}f_0$, d_0) are shared between pair-conjugate systems (i.e. a parameter set describing the ΛK^+ & $\bar{\Lambda}K^-$ system, and a separate set describing the ΛK^- & $\bar{\Lambda}K^+$ system). For each centrality, a radius parameter is shared between all pairs (ΛK^+, $\bar{\Lambda}K^-$, ΛK^-, $\bar{\Lambda}K^+$), and a λ parameter is shared between a pair and its conjugate. Each analysis has a unique normalization parameter. The background is modeled by a (6^{th}-)degree polynomial fit to THERMINATOR simulation. The fit is done on the data with only statistical error bars. The errors marked as "stat." are those returned by MINUIT. The errors marked as "sys." are those which result from my systematic analysis (as outlined in Section **??**).