

Fit Results $\Lambda(\bar{\Lambda})K_S^0$						
System	Centrality	Fit Parameters				
		$\lambda$	$R$	$\Re f_0$	$\Im f_0$	$d_0$
$\Lambda K_S^0$ & $\bar{\Lambda} K_S^0$	0-10%		$2.74 \pm 0.49$ (stat.) $\pm 0.33$ (sys.)			
	10-30%	$0.60 \pm 0.82$ (stat.) $\pm 0.16$ (sys.)	$2.42 \pm 0.45$ (stat.) $\pm 0.23$ (sys.)	$-0.39 \pm 0.10$ (stat.) $\pm 0.16$ (sys.)	$0.17 \pm 0.11$ (stat.) $\pm 0.13$ (sys.)	$1.50 \pm 0.91$ (stat.) $\pm 0.62$ (sys.)
	30-50%		$1.79 \pm 0.32$ (stat.) $\pm 0.11$ (sys.)			

**Table 1:** Fit Results  $\Lambda(\bar{\Lambda})K_S^0$ , with 3 residual correlations included. Each pair is fit simultaneously with its conjugate (ie.  $\Lambda K_S^0$  with  $\bar{\Lambda} K_S^0$ ) across all centralities (0-10%, 10-30%, 30-50%), for a total of 6 simultaneous analyses in the fit. A single  $\lambda$  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 ( $\Re f_0$ ,  $\Im f_0$ ,  $d_0$ ) are shared amongst all. The background is modeled by a (6<sup>th</sup>-)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				
		$\lambda$	$R$	$\Re f_0$	$\Im f_0$	$d_0$
$\Lambda K^+ \text{ \& } \bar{\Lambda} K^-$	0-10%	$1.83 \pm 0.30 \text{ (stat.)} \pm 0.28 \text{ (sys.)}$	$5.81 \pm 0.55 \text{ (stat.)} \pm 0.54 \text{ (sys.)}$	$-1.12 \pm 0.14 \text{ (stat.)} \pm 0.36 \text{ (sys.)}$	$0.48 \pm 0.13 \text{ (stat.)} \pm 0.23 \text{ (sys.)}$	$1.01 \pm 0.30 \text{ (stat.)} \pm 0.53 \text{ (sys.)}$
	10-30%	$1.31 \pm 0.23 \text{ (stat.)} \pm 0.36 \text{ (sys.)}$	$4.50 \pm 0.42 \text{ (stat.)} \pm 0.42 \text{ (sys.)}$			
$\Lambda K^+ \text{ \& } \bar{\Lambda} K^-$	30-50%	$1.07 \pm 0.19 \text{ (stat.)} \pm 0.31 \text{ (sys.)}$	$3.09 \pm 0.27 \text{ (stat.)} \pm 0.32 \text{ (sys.)}$	$0.39 \pm 0.12 \text{ (stat.)} \pm 0.14 \text{ (sys.)}$	$0.45 \pm 0.09 \text{ (stat.)} \pm 0.11 \text{ (sys.)}$	$-4.35 \pm 1.38 \text{ (stat.)} \pm 1.33 \text{ (sys.)}$

**Table 2:** 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 ( $\Re f_0$ ,  $\Im f_0$ ,  $d_0$ ) are shared between pair-conjugate systems (i.e. a parameter set describing the  $\Lambda K^+$  &  $\bar{\Lambda} K^-$  system, and a separate set describing the  $\Lambda K^-$  &  $\bar{\Lambda} K^+$  system). For each centrality, a radius and  $\lambda$  parameters are shared between all pairs ( $\Lambda K^+$ ,  $\bar{\Lambda} K^-$ ,  $\Lambda K^-$ ,  $\bar{\Lambda} K^+$ ). Each analysis has a unique normalization parameter. The background is modeled by a (6<sup>th</sup>)-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 ??).