

Fit Results $\Lambda(\bar{\Lambda})K^\pm$						
System	Centrality	Fit Parameters				
		$\lambda$	$R$	$\Re f_0$	$\Im f_0$	
$\Lambda K^+ \text{ \& } \bar{\Lambda} K^-$	0-10%	$1.87 \pm 0.42 \text{ (stat.)} \pm 0.21 \text{ (sys.)}$	$6.59 \pm 0.80 \text{ (stat.)} \pm 0.49 \text{ (sys.)}$	$-1.14 \pm 0.17 \text{ (stat.)} \pm 0.31 \text{ (sys.)}$	$0.66 \pm 0.16 \text{ (stat.)} \pm 0.15 \text{ (sys.)}$	0.68
	10-30%	$1.27 \pm 0.26 \text{ (stat.)} \pm 0.23 \text{ (sys.)}$	$4.91 \pm 0.53 \text{ (stat.)} \pm 0.28 \text{ (sys.)}$			
$\Lambda K^+ \text{ \& } \bar{\Lambda} K^-$	30-50%	$1.07 \pm 0.23 \text{ (stat.)} \pm 0.32 \text{ (sys.)}$	$3.44 \pm 0.36 \text{ (stat.)} \pm 0.13 \text{ (sys.)}$	$0.52 \pm 0.15 \text{ (stat.)} \pm 0.19 \text{ (sys.)}$	$0.55 \pm 0.10 \text{ (stat.)} \pm 0.18 \text{ (sys.)}$	-3.6

**Table 1:** Fit Results  $\Lambda(\bar{\Lambda})K^\pm$ , with 10 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 ??).