#### 1 Systematic Errors

This study is currently ongoing, and an estimate of my systematic uncertainties should be complete within a week. In order to understand my systematic uncertainties, the analysis code was run many times using slightly different values for a number of important cuts, and the results were compared. To quantify the effect, the difference in two correlation functions obtained using different values for a given cut was fit with a simple exponential decay function:

$$\Delta C(k^*) = Ae^{-Bk^*} \tag{1}$$

The amplitude, A, and its associated uncertainty for the various cuts can be found in Tables 1 through 17. The systematic effect of the variation is marked as significant ("Sig" column) if the amplitude is not withih  $2\sigma$  of 0. Although this proves qualitatively useful, these fits will likely not be used to quantify the systematic effects.

In order to quantify the systematic errors on the correlation functions, all correlations will be averaged, and the resulting variance will be taken as the systematic error. Similarly, the fit parameters extracted from all of these correlation functions will be averaged, and they resulting variances will be taken as the systematic errors for the fit parameters.

### 1.1 Systematic Errors: $\Lambda K_S^0$

#### 1.1.1 Particle and Pair Cuts

The cuts included in the systematic study, as well as the values used in the variations, are listed below. Note, the central value corresponds to that used in the analysis.

- 1. DCA  $\Lambda(\bar{\Lambda})$ : {4, 5, 6 mm}
- 2. DCA  $K_S^0$ : {2, 3, 4 mm}
- 3. DCA  $\Lambda(\bar{\Lambda})$  Daughters:  $\{3, 4, 5 \text{ mm}\}$
- 4. DCA  $K_S^0$  Daughters:  $\{2, 3, 4 \text{ mm}\}$
- 5.  $\Lambda(\bar{\Lambda})$  Cosine of Pointing Angle: {0.9992, 0.9993, 0.9994}
- 6.  $K_s^0$  Cosine of Pointing Angle: {0.9992, 0.9993, 0.9994}
- 7. DCA to Primary Vertex of  $p(\bar{p})$  Daughter of  $\Lambda(\bar{\Lambda})$ :  $\{0.5, 1, 2 \text{ mm}\}$
- 8. DCA to Primary Vertex of  $\pi^-(\pi^+)$  Daughter of  $\Lambda(\bar{\Lambda})$ :  $\{0.5, 1, 2 \text{ mm}\}$
- 9. DCA to Primary Vertex of  $\pi^+$  Daughter of  $K_s^0$ : {2, 3, 4 mm}
- 10. DCA to Primary Vertex of  $\pi^-$  Daughter of  $K_S^0$ : {2, 3, 4 mm}
- 11. Average Separation of Like-Charge Daughters: {5, 6, 7 cm}

# $DCA~\Lambda(\bar{\Lambda})$

		Fit Amplitudes							
Pair Type	Centrality	Amplitude	Error	Sig	Amplitude	Error	Sig		
		4 v	vs 5 mm		5 vs 6 mm				
	0-10%	2.616e-04	2.840e-04	No	-5.282e-03	4.887e-03	No		
$\Lambda K_S^0$	10-30%	-1.236e-03	1.568e-03	No	6.110e-05	1.457e-04	No		
	30-50%	-4.664e-02	3.295e-02	No	-1.877e-01	7.037e-02	Yes		
	0-10%	-6.093e-05	3.827e-05	No	-9.599e-02	1.133e-01	No		
$\bar{\Lambda} \mathrm{K}^0_S$	10-30%	-3.478e-05	1.983e-04	No	-2.846e-04	6.743e-04	No		
5	30-50%	-2.054e-02	2.609e-02	No	-3.701e-03	3.136e-03	No		

Table 1:  $\Lambda(\bar{\Lambda})K^0_S$  Analyses: DCA  $\Lambda(\bar{\Lambda})$  caption

# DCA $K_S^0$

		Fit Amplitudes							
Pair Type	Centrality	Amplitude	Error	Sig	Amplitude	Error	Sig		
		2 ,	vs 3 mm		3 vs 4 mm				
	0-10%	-1.149e-04	1.616e-04	No	1.495e-04	3.020e-04	No		
$\Lambda K_S^0$	10-30%	2.336e-04	7.234e-05	Yes	-2.560e-03	2.270e-03	No		
	30-50%	-7.966e-03	4.151e-03	No	-1.721e-02	6.245e-03	Yes		
	0-10%	6.657e-05	5.808e-04	No	7.037e-05	2.753e-05	Yes		
$\bar{\Lambda} \mathrm{K}^0_S$	10-30%	-4.373e-04	3.529e-04	No	-4.653e-04	3.627e-04	No		
5	30-50%	-2.048e-03	1.296e-03	No	-2.871e-04	8.150e-04	No		

**Table 2:**  $\Lambda(\bar{\Lambda})K^0_S$  Analyses: DCA  $K^0_S$  caption

## DCA $\Lambda(\bar{\Lambda})$ Daughters

			` ' '						
		Fit Amplitudes							
Pair Type	Centrality	Amplitude	Error	Sig	Amplitude	Error	Sig		
		3 vs 4 mm			4 vs 5 mm				
	0-10%	1.743e-05	3.776e-05	No	1.972e-04	2.813e-04	No		
$\Lambda K_S^0$	10-30%	1.293e-04	7.761e-05	No	-8.925e-05	6.165e-05	No		
	30-50%	-8.647e-02	9.120e-02	No	-5.097e-02	5.611e-02	No		
	0-10%	-8.539e-06	3.914e-05	No	5.936e-05	3.128e-05	No		
$\bar{\Lambda} K_S^0$	10-30%	1.001e-04	7.999e-05	No	-2.452e-04	2.952e-04	No		
	30-50%	4.672e-05	1.859e-04	No	-1.423e-01	1.753e-01	No		

Table 3:  $\Lambda(\bar{\Lambda})K^0_{S}$  Analyses: DCA  $\Lambda(\bar{\Lambda})$  Daughters

## DCA K<sub>S</sub> Daughters

		Fit Amplitudes							
Pair Type	Centrality	Amplitude	Error	Sig	Amplitude	Error	Sig		
		2 י	vs 3 mm		3 vs 4 mm				
	0-10%	-1.383e-03	1.201e-03	No	-2.394e-03	2.528e-03	No		
$\Lambda \mathrm{K}_S^0$	10-30%	-1.199e-01	6.112e-02	No	-1.673e-03	1.620e-03	No		
	30-50%	-1.397e-01	5.508e-02	Yes	-2.249e-03	3.303e-03	No		
	0-10%	-3.646e-03	2.561e-03	No	-4.246e-04	5.171e-04	No		
$ar{\Lambda}  ext{K}_S^0$	10-30%	1.800e-04	8.734e-05	Yes	-7.128e-04	9.398e-04	No		
	30-50%	-2.813e-02	1.883e-02	No	-1.285e-02	9.463e-03	No		

**Table 4:**  $\Lambda(\bar{\Lambda})K^0_S$  Analyses: DCA  $K^0_S$  Daughters

### $\Lambda(\bar{\Lambda})$ Cosine of Pointing Angle

		Fit Amplitudes							
Pair Type	Centrality	Amplitude	Error	Sig	Amplitude	Error	Sig		
		0.999	2 vs 0.9993		0.9993 vs 0.9994				
	0-10%	4.733e-03	2.311e-03	Yes	-7.459e-05	1.768e-04	No		
$\Lambda K_S^0$	10-30%	5.201e-03	2.270e-03	Yes	-2.253e-05	7.593e-05	No		
	30-50%	-6.078e-05	6.309e-05	No	5.494e-03	1.496e-03	Yes		
	0-10%	-2.031e-05	8.438e-07	Yes	-4.978e-05	6.433e-05	No		
$ar{\Lambda} {\mathsf K}^0_S$	10-30%	3.929e-04	2.778e-04	No	1.333e-04	2.362e-04	No		
	30-50%	1.770e-03	6.120e-04	Yes	1.169e-04	7.436e-05	No		

**Table 5:**  $\Lambda(\bar{\Lambda})K_S^0$  Analyses:  $\Lambda(\bar{\Lambda})$  Cosine of Pointing Angle

### K<sub>S</sub><sup>0</sup> Cosine of Pointing Angle

		Fit Amplitudes							
Pair Type	Centrality	Amplitude	Error	Sig	Amplitude	Error	Sig		
		0.999	2 vs 0.9993		0.9993 vs 0.9994				
	0-10%	-3.282e-04	4.102e-04	No	7.088e-04	3.667e-04	No		
$\Lambda K_S^0$	10-30%	1.476e-03	2.082e-03	No	8.069e-03	3.961e-03	Yes		
	30-50%	-3.150e-04	6.895e-04	No	5.057e-03	2.639e-03	No		
	0-10%	5.986e-04	4.487e-04	No	7.197e-04	7.865e-04	No		
$\bar{\Lambda} K_S^0$	10-30%	3.562e-03	1.378e-03	Yes	1.303e-03	1.067e-03	No		
5	30-50%	5.878e-02	8.703e-02	No	1.493e-04	1.017e-04	No		

**Table 6:**  $\Lambda(\bar{\Lambda})K^0_S$  Analyses:  $K^0_S$  Cosine of Pointing Angle

### DCA to Primary Vertex of $p^+(\bar{p}^-)$ Daughter of $\Lambda(\bar{\Lambda})$

		,	1 1	/	0				
		Fit Amplitudes							
Pair Type	Centrality	Amplitude	Error	Sig	Amplitude	Error	Sig		
		0.5 vs 1 mm			1 vs 2 mm				
	0-10%	0.000e+00	0.000e+00	No	-2.602e-03	2.525e-03	No		
$\Lambda K_S^0$	10-30%	2.964e-07	1.165e-06	No	1.702e-04	9.110e-05	No		
-	30-50%	0.000e+00	0.000e+00	No	5.775e-03	7.524e-03	No		
	0-10%	0.000e+00	0.000e+00	No	-2.584e-04	4.464e-04	No		
$\bar{\Lambda} \mathrm{K}^0_S$	10-30%	0.000e+00	0.000e+00	No	-3.469e-04	1.403e-04	Yes		
3	30-50%	0.000e+00	0.000e+00	No	-6.689e-04	1.232e-03	No		

**Table 7:**  $\Lambda(\bar{\Lambda})K_S^0$  Analyses: DCA to Primary Vertex of  $p^+(\bar{p}^-)$  Daughter of  $\Lambda(\bar{\Lambda})$ 

### DCA to Primary Vertex of $\pi^-(\pi^+)$ Daughter of $\Lambda(\bar{\Lambda})$

Deritorimary verex of n (n ) Baugher of n(n)									
		Fit Amplitudes							
Pair Type	Centrality	Amplitude	Error	Sig	Amplitude	Error	Sig		
		2 ,	vs 3 mm		3 vs 4 mm				
	0-10%	3.829e-05	1.846e-05	Yes	-4.781e-05	8.826e-05	No		
$\Lambda K_S^0$	10-30%	1.498e-03	2.398e-03	No	4.245e+00	4.457e+01	No		
	30-50%	3.751e-03	2.567e-03	No	6.001e-03	4.805e-03	No		
	0-10%	5.680e-05	1.816e-05	Yes	-3.516e-05	2.272e-05	No		
$ar{\Lambda} K_S^0$	10-30%	1.539e-04	2.857e-04	No	-1.311e-04	4.871e-05	Yes		
	30-50%	1.410e-03	1.734e-03	No	4.401e-02	1.349e-02	Yes		

**Table 8:**  $\Lambda(\bar{\Lambda})K_S^0$  Analyses: DCA to Primary Vertex of  $\pi^-(\pi^+)$  Daughter of  $\Lambda(\bar{\Lambda})$ 

DCA to Primary Vertex of  $\pi^+$  Daughter of  $K_S^0$ 

		Fit Amplitudes						
Pair Type	Centrality	Amplitude	Error	Sig	Amplitude	Error	Sig	
		2 vs 3 mm			3 vs 4 mm			
	0-10%	-4.519e-05	2.636e-05	No	-8.563e-05	3.040e-05	Yes	
$\Lambda K_S^0$	10-30%	-8.408e-03	7.107e-03	No	-4.274e-04	9.735e-04	No	
	30-50%	2.064e-03	1.619e-03	No	1.274e-03	1.270e-03	No	
	0-10%	8.474e-04	1.271e-03	No	3.787e-04	3.383e-04	No	
$\bar{\Lambda} \mathrm{K}^0_S$	10-30%	-7.583e-05	5.660e-05	No	-7.112e-03	1.605e-02	No	
5	30-50%	-6.532e-04	1.388e-04	Yes	3.770e-02	1.629e-02	Yes	

**Table 9:**  $\Lambda(\bar{\Lambda})K^0_S$  Analyses: DCA to Primary Vertex of  $\pi^+$  Daughter of  $K^0_S$ 

### DCA to Primary Vertex of $\pi^-$ Daughter of $K_S^0$

		Fit Amplitudes							
Pair Type	Centrality	Amplitude	Error	Sig	Amplitude	Error	Sig		
		2 ,	vs 3 mm		3 vs 4 mm				
	0-10%	-3.283e-04	4.184e-04	No	3.117e-04	2.151e-04	No		
$\Lambda K_S^0$	10-30%	-7.208e-07	3.153e-04	No	2.858e-04	6.697e-04	No		
	30-50%	4.434e-02	2.574e-02	No	2.761e-04	1.565e-04	No		
	0-10%	8.823e-05	2.701e-05	Yes	9.286e-02	1.113e-01	No		
$ar{\Lambda}  ext{K}_S^0$	10-30%	1.778e-04	5.686e-05	Yes	1.343e-03	1.986e-03	No		
	30-50%	1.449e-04	1.368e-04	No	-1.887e-04	1.605e-04	No		

**Table 10:**  $\Lambda(\bar{\Lambda})K_S^0$  Analyses: DCA to Primary Vertex of  $\pi^-$  Daughter of  $K_S^0$ 

#### Avgerage Separation of Like-Charge Daughters

	Avgerage Separation of Like-Charge Daughters								
						Fit Am	plitude		
Pair Type	Dau	ghters	Centrality	Amplitude	Error	Sig	Amplitude	Error	Sig
				5.0	vs 6.0 cm		6.0	vs 7.0 cm	
			0-10%	1.665e-05	2.087e-06	Yes	2.653e-04	1.739e-04	No
$\Lambda \mathrm{K}^0_S$	$p(\Lambda)$	$\pi^+(\mathbf{K}^0_S)$	10-30%	2.331e-05	4.563e-05	No	-1.713e-05	6.046e-06	Yes
			30-50%	4.333e-04	1.155e-04	Yes	7.198e-04	1.244e-04	Yes
			0-10%	7.361e-06	2.047e-06	Yes	-2.548e-05	2.467e-05	No
$\Lambda K_S^0$	$\pi^-(\Lambda)$	$\pi^-(\mathrm{K}^0_S)$	10-30%	4.421e-05	3.105e-05	No	7.315e-04	1.322e-04	Yes
			30-50%	6.366e-05	5.813e-05	No	1.154e-04	8.695e-06	Yes
			0-10%	8.888e-04	2.082e-04	Yes	-5.316e-06	3.826e-05	No
$\bar{\Lambda} \mathrm{K}^0_S$	$\pi^+(ar{\Lambda})$	$\pi^+(\mathbf{K}^0_S)$	10-30%	9.162e-04	2.614e-04	Yes	1.925e-05	6.041e-05	No
		_	30-50%	1.478e-04	4.676e-05	Yes	9.973e-05	6.549e-05	No
			0-10%	1.730e-04	1.161e-04	No	-2.798e-05	4.725e-05	No
$\bar{\Lambda} \mathrm{K}^0_S$	$ar p^-(ar\Lambda)$	$\pi^-(K_S^0)$	10-30%	1.579e-05	5.734e-05	No	-3.884e-07	6.028e-06	No
~			30-50%	1.074e-04	3.781e-05	Yes	4.932e-04	2.440e-04	Yes

**Table 11:**  $\Lambda(\bar{\Lambda})K^0_S$  Analyses: Avgerage Separation of Positive Daughters

#### DCA $\Lambda(\bar{\Lambda})$

		Fit Amplitudes						
Pair Type	Centrality	Amplitude	Error	Sig	Amplitude	Error	Sig	
		4 v	vs 5 mm		5 ,	vs 6 mm	•	
	0-10%	-1.200e-04	8.688e-05	No	2.534e-04	1.983e-04	No	
$\Lambda K^+$	10-30%	-3.714e-05	1.986e-04	No	6.806e-02	7.932e-02	No	
	30-50%	-5.383e-02	6.237e-02	No	-3.545e-04	4.265e-04	No	
	0-10%	-1.388e-04	1.057e-04	No	4.615e-05	1.693e-05	Yes	
$\bar{\Lambda} \mathrm{K}^-$	10-30%	-7.745e-04	4.039e-04	No	-3.957e-05	5.462e-04	No	
	30-50%	1.601e-03	1.398e-03	No	2.435e-04	1.118e-03	No	
	0-10%	-6.034e-05	1.158e-04	No	1.924e-03	1.398e-03	No	
$\Lambda K^-$	10-30%	4.468e-05	4.450e-05	No	-4.520e-04	3.092e-04	No	
	30-50%	-1.496e-03	9.168e-04	No	-7.476e-04	1.012e-03	No	
	0-10%	-1.777e-04	2.999e-04	No	-2.152e-05	1.639e-05	No	
$ar{\Lambda} \mathrm{K}^+$	10-30%	-3.655e-04	3.734e-04	No	-8.857e-04	7.247e-04	No	
	30-50%	-1.650e-03	1.124e-03	No	-3.706e-04	3.366e-04	No	

**Table 12:**  $\Lambda(\bar{\Lambda})K^{\pm}$  Analyses: DCA  $\Lambda(\bar{\Lambda})$ 

- 1.1.2 Non-Flat Background
- 1.1.3 Fit Range
- 1.1.4 Normalization Range
- 1.2 Momentum Resolution Correction
- 1.3 Systematic Errors:  $\Lambda K^{\pm}$

#### 1.3.1 Particle and Pair Cuts

The cuts included in the systematic study, as well as the values used in the variations, are listed below. Note, the central value corresponds to that used in the analysis.

- 1. DCA  $\Lambda(\bar{\Lambda})$ : {4, 5, 6 mm}
- 2. DCA  $\Lambda(\bar{\Lambda})$  Daughters:  $\{3, 4, 5 \text{ mm}\}$
- 3.  $\Lambda(\bar{\Lambda})$  Cosine of Pointing Angle: {0.9992, 0.9993, 0.9994}
- 4. DCA to Primary Vertex of  $p(\bar{p})$  Daughter of  $\Lambda(\bar{\Lambda})$ :  $\{0.5, 1, 2 \text{ mm}\}$
- 5. DCA to Primary Vertex of  $\pi^-(\pi^+)$  Daughter of  $\Lambda(\bar{\Lambda})$ :  $\{0.5, 1, 2 \text{ mm}\}$
- 6. Average Separation of  $\Lambda(\bar{\Lambda})$  Daughter with Same Charge as  $K^{\pm}$ :  $\{7, 8, 9 \text{ cm}\}$
- 1.3.2 Non-Flat Background
- 1.3.3 Fit Range
- 1.3.4 Normalization Range
- 1.4 Momentum Resolution Correction

DCA  $\Lambda(\bar{\Lambda})$  Daughters

		Fit Amplitudes							
Pair Type	Centrality	Amplitude	Error	Sig	Amplitude	Error	Sig		
		3 v	s 4 mm		4 vs 5 mm				
	0-10%	-1.170e-02	9.437e-03	No	-2.349e-03	1.142e-03	Yes		
$\Lambda \mathrm{K}^+$	10-30%	-3.522e-04	3.863e-04	No	1.359e-05	3.543e-05	No		
	30-50%	1.090e-03	1.354e-03	No	-7.623e-02	3.708e-02	Yes		
$ar{\Lambda} \mathrm{K}^-$	0-10%	-1.306e-04	1.486e-04	No	-4.771e-04	5.081e-04	No		
	10-30%	7.482e-04	8.811e-04	No	8.166e-05	3.779e-05	Yes		
	30-50%	-7.928e-04	1.146e-03	No	-2.568e-04	8.664e-05	Yes		
	0-10%	-1.498e-04	1.562e-04	No	-5.849e-04	6.665e-04	No		
$\Lambda K^-$	10-30%	1.204e-05	2.583e-04	No	-9.794e-05	1.314e-04	No		
	30-50%	-9.314e-03	6.614e-03	No	-1.264e-04	8.487e-05	No		
	0-10%	-4.149e-04	3.296e-04	No	5.288e-05	7.505e-05	No		
$ar{\Lambda} \mathrm{K}^+$	10-30%	2.293e-04	3.396e-04	No	-8.853e-04	1.196e-03	No		
	30-50%	-6.129e-05	7.969e-04	No	1.735e-04	8.784e-05	No		

**Table 13:**  $\Lambda(\bar{\Lambda})K^{\pm}$  Analyses: DCA  $\Lambda(\bar{\Lambda})$  Daughters

 $\Lambda(\bar{\Lambda})$  Cosine of Pointing Angle

A(A) Cosine of Foiliting Angle									
		Fit Amplitudes							
Pair Type	Centrality	Amplitude	Error	Sig	Amplitude	Error	Sig		
		0.9992 vs 0.9993			0.9993 vs 0.9994				
	0-10%	-1.448e-05	9.361e-06	No	6.215e-04	4.967e-04	No		
$\Lambda \mathrm{K}^+$	10-30%	3.355e-02	2.063e-02	No	5.291e-04	7.270e-04	No		
	30-50%	4.609e-03	5.410e-03	No	1.360e-04	4.949e-05	Yes		
	0-10%	-4.085e-06	1.016e-05	No	1.211e-05	1.145e-05	No		
$ar{\Lambda} \mathrm{K}^-$	10-30%	1.249e-04	1.660e-04	No	-2.328e-05	2.350e-05	No		
	30-50%	2.214e-03	1.301e-03	No	-3.532e-03	4.294e-03	No		
	0-10%	3.409e-05	9.589e-06	Yes	1.170e-04	1.430e-04	No		
$\Lambda K^-$	10-30%	6.537e-05	1.967e-05	Yes	2.119e-04	2.609e-04	No		
	30-50%	-4.434e-05	4.608e-05	No	9.610e-05	5.145e-05	No		
$ar{\Lambda} \mathrm{K}^+$	0-10%	-3.270e-05	5.714e-05	No	-1.744e-05	1.103e-05	No		
	10-30%	-7.203e-05	2.042e-05	Yes	1.023e-04	1.924e-04	No		
	30-50%	2.030e-03	1.831e-03	No	7.645e-05	5.303e-05	No		

Table 14:  $\Lambda(\bar{\Lambda})K^{\pm}$  Analyses:  $\Lambda(\bar{\Lambda})$  Cosine of Pointing Angle

DCA to Primary Vertex of  $p^+(\bar{p}^-)$  Daughter of  $\Lambda(\bar{\Lambda})$ 

		Fit Amulitudas								
		Fit Amplitudes								
Pair Type   Centrality		Amplitude Error Sig A		Amplitude	Error	Sig				
		0.5	vs 1 mm	1 vs 2 mm						
	0-10%	0.000e+00	0.000e+00	No	-2.429e-04	2.561e-04	No			
$\Lambda \mathrm{K}^+$	10-30%	-3.554e-08	6.097e-08	No	1.598e-04	7.738e-05	Yes			
	30-50%	0.000e+00	0.000e+00	No	-2.317e-03	1.992e-03	No			
	0-10%	0.000e+00	0.000e+00	No	-9.883e-04	9.265e-04	No			
$ar{\Lambda} \mathrm{K}^-$	10-30%	0.000e+00	0.000e+00	No	-2.472e-04	5.419e-04	No			
	30-50%	0.000e+00	0.000e+00	No	1.227e-03	1.328e-03	No			
	0-10%	0.000e+00	0.000e+00	No	3.677e-03	4.028e-03	No			
$\Lambda \mathrm{K}^-$	10-30%	1.875e-07	1.095e-06	No	6.518e-03	5.373e-03	No			
	30-50%	0.000e+00	0.000e+00	No	-2.985e-04	5.747e-04	No			
	0-10%	0.000e+00	0.000e+00	No	-4.252e-04	3.414e-04	No			
$ar{\Lambda} \mathrm{K}^+$	10-30%	0.000e+00	0.000e+00	No	1.033e-03	8.146e-04	No			
	30-50%	0.000e+00	0.000e+00	No	-7.193e-04	7.376e-04	No			

**Table 15:**  $\Lambda(\bar{\Lambda})K^{\pm}$  Analyses: DCA to Primary Vertex of  $p^{+}(\bar{p}^{-})$  Daughter of  $\Lambda(\bar{\Lambda})$ 

DCA to Primary Vertex of  $\pi^-(\pi^+)$  Daughter of  $\Lambda(\bar{\Lambda})$ 

Best to similarly vertex of W (W ) Budgitter of signal									
		Fit Amplitudes							
Pair Type	Centrality	Amplitude	Error	Sig	Amplitude	Error	Sig		
		2 .	vs 3 mm	3 vs 4 mm					
$\Lambda K^+$	0-10%	7.991e-02	3.641e-01	No	-2.774e-03	3.759e-03	No		
	10-30%	-2.559e-05	5.097e-05	No	-4.152e-03	3.267e-03	No		
	30-50%	1.461e-02	5.067e-03	Yes	-8.144e-05	3.055e-04	No		
	0-10%	-9.069e-06	1.070e-05	No	-1.506e-04	2.900e-04	No		
$ar{\Lambda} \mathrm{K}^-$	10-30%	1.485e-05	2.273e-05	No	-2.281e-04	2.219e-04	No		
	30-50%	3.830e-03	2.477e-03	No	-2.258e-04	8.241e-04	No		
	0-10%	-4.017e-05	5.473e-05	No	-3.418e-05	5.661e-05	No		
$\Lambda \mathrm{K}^-$	10-30%	6.474e-05	7.444e-05	No	4.487e-04	6.332e-04	No		
	30-50%	3.344e-03	3.224e-03	No	9.751e-05	7.055e-05	No		
$ar{\Lambda} \mathrm{K}^+$	0-10%	2.080e-05	1.035e-05	Yes	-1.947e-05	9.814e-05	No		
	10-30%	-4.528e-04	3.642e-04	No	6.138e-05	2.809e-05	Yes		
	30-50%	2.643e-04	5.272e-05	Yes	-2.107e-03	1.815e-03	No		

**Table 16:**  $\Lambda(\bar{\Lambda})K^{\pm}$  Analyses: DCA to Primary Vertex of  $\pi^{-}(\pi^{+})$  Daughter of  $\Lambda(\bar{\Lambda})$ 

Average Separation of  $\Lambda(\bar{\Lambda})$  Daughter With Same Charge as  $K^{\pm}$ 

Average Separation of $N(N)$ Daughter with Same Charge as K											
				Fit Amplitudes							
Pair Type	Daughter	Track	Centrality	Amplitude	Error	Sig	Amplitude	Error	Sig		
				7 vs 8 mm			8 vs 9 mm				
			0-10%	1.310e-06	1.696e-07	Yes	4.374e-06	2.246e-07	Yes		
$\Lambda K^+$	$p(\Lambda)$	K <sup>+</sup>	10-30%	2.084e-06	4.698e-07	Yes	4.124e-06	4.593e-06	No		
			30-50%	-1.186e-03	9.739e-04	No	3.110e-05	3.395e-05	No		
			0-10%	2.057e-06	1.499e-07	Yes	3.829e-06	1.327e-07	Yes		
$ar{\Lambda} \mathrm{K}^-$	$ar{p}^-(ar{\Lambda})$	K <sup>-</sup>	10-30%	7.002e-06	6.292e-06	No	4.608e-06	4.256e-06	No		
			30-50%	4.608e-06	4.256e-06	No	9.199e-05	7.119e-05	No		
			0-10%	4.686e-06	3.491e-07	Yes	2.311e-06	5.498e-07	Yes		
$\Lambda K^-$	$\pi^-(\Lambda)$	K <sup>-</sup>	10-30%	5.411e-06	7.471e-07	Yes	7.344e-06	5.583e-07	Yes		
			30-50%	2.045e-04	1.593e-04	No	1.570e-04	3.330e-04	No		
			0-10%	-3.063e-04	1.137e-04	Yes	-6.134e-05	6.307e-05	No		
$ar{\Lambda} \mathrm{K}^+$	$\pi^+(ar{\Lambda})$	K <sup>+</sup>	10-30%	6.019e-06	6.879e-07	Yes	1.473e-06	1.292e-06	No		
			30-50%	1.773e-04	6.857e-05	Yes	1.701e-04	1.120e-04	No		

**Table 17:**  $\Lambda(\bar{\Lambda})K_S^0$  Analyses: Average Separation of  $\Lambda(\bar{\Lambda})$  Daughter With Same Charge as  $K^{\pm}$