0.1 Systematic Errors: $\Lambda K^{\pm}$

DCA Λ(Λ̄) 500MeVMaxFit

Pair Type	Centrality	Fit Amplitudes					
		Amplitude	Error	Sig	Amplitude	Error	Sig
		4 vs 5 mm			5 vs 6 mm		
ΛK⁺	0-10%	-2.986e-02	1.645e-01	No	2.006e-03	2.090e-03	Yes
	10-30%	-8.643e-03	1.603e-01	No	7.363e-04	1.788e-03	No
	30-50%	-5.216e-02	5.994e-02	No	-3.451e-02	2.743e-01	No
Λ̄K⁻	0-10%	-3.432e-03	2.215e-02	No	-3.703e-02	2.614e-01	No
	10-30%	-9.909e-04	1.418e-03	No	-3.485e-02	1.963e-01	No
	30-50%	1.579e-03	1.199e-03	No	3.059e-04	1.149e-03	No
ΛK⁻	0-10%	-1.968e-02	1.487e-01	No	2.004e-03	1.465e-03	No
	10-30%	-1.394e-03	1.794e-03	No	-4.588e-04	3.685e-04	No
	30-50%	-1.516e-03	1.011e-03	No	-8.272e-04	7.739e-04	No
Λ̄K⁺	0-10%	-1.016e-02	5.231e-02	No	8.251e-04	1.290e-03	No
	10-30%	-1.407e-02	5.320e-02	No	-7.610e-04	6.160e-04	No
	30-50%	-4.230e-03	4.236e-03	Yes	-2.218e-04	5.994e-04	No

Table 1: Λ(Λ̄)K$^{\pm}$ Analyses: DCA Λ(Λ̄)

DCA Λ(Λ̄) 500MeVMaxFit SimpleExp

Pair Type	Centrality	Fit Amplitudes					
		Amplitude	Error	Sig	Amplitude	Error	Sig
		4 vs 5 mm			5 vs 6 mm		
ΛK⁺	0-10%	-1.200e-04	8.688e-05	No	2.534e-04	1.983e-04	No
	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
Λ̄K⁻	0-10%	-1.388e-04	1.057e-04	No	4.615e-05	1.693e-05	Yes
	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
ΛK⁻	0-10%	-6.034e-05	1.158e-04	No	1.924e-03	1.398e-03	No
	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
Λ̄K⁺	0-10%	-1.777e-04	2.999e-04	No	-2.152e-05	1.639e-05	No
	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 2: Λ(Λ̄)K$^{\pm}$ Analyses: DCA Λ(Λ̄)

Talk about stuff

DCA Λ(Λ̄) Daughters 500MeVMaxFit

Pair Type	Centrality	Fit Amplitudes					
		Amplitude	Error	Sig	Amplitude	Error	Sig
		3 vs 4 mm			4 vs 5 mm		
ΛK$^+$	0-10%	-1.136e-02	9.416e-03	No	-2.395e-03	1.173e-03	Yes
	10-30%	-2.773e-02	1.091e-01	No	-2.962e-04	1.524e-03	No
	30-50%	1.057e-03	1.241e-03	No	-7.586e-02	3.692e-02	Yes
Λ̄K$^-$	0-10%	-7.829e-03	6.509e-03	Yes	-5.710e-04	5.934e-04	No
	10-30%	7.443e-04	8.673e-04	No	1.088e-03	1.168e-03	No
	30-50%	-1.225e-01	4.522e-01	No	2.278e-03	2.851e-03	Yes
ΛK$^-$	0-10%	-1.527e-04	1.883e-04	No	-5.835e-04	6.913e-04	No
	10-30%	-5.726e-02	1.965e-01	No	-4.351e-02	2.713e-01	No
	30-50%	-1.140e-02	7.375e-03	Yes	2.958e-02	2.476e-01	No
Λ̄K$^+$	0-10%	-3.676e-04	2.325e-04	No	6.753e-03	8.862e-02	No
	10-30%	2.291e-04	3.914e-04	No	-9.527e-04	1.492e-03	No
	30-50%	1.108e-01	6.299e-01	No	4.620e-03	5.502e-03	No

Table 3: Λ(Λ̄)K$^\pm$ Analyses: DCA Λ(Λ̄) Daughters

DCA Λ(Λ̄) Daughters 500MeVMaxFit SimpleExp

Pair Type	Centrality	Fit Amplitudes					
		Amplitude	Error	Sig	Amplitude	Error	Sig
		3 vs 4 mm			4 vs 5 mm		
ΛK$^+$	0-10%	-1.170e-02	9.437e-03	No	-2.349e-03	1.142e-03	Yes
	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
Λ̄K$^-$	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
ΛK$^-$	0-10%	-1.498e-04	1.562e-04	No	-5.849e-04	6.665e-04	No
	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
Λ̄K$^+$	0-10%	-4.149e-04	3.296e-04	No	5.288e-05	7.505e-05	No
	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 4: Λ(Λ̄)K$^\pm$ Analyses: DCA Λ(Λ̄) Daughters

Λ(Λ̄) Cosine of Pointing Angle 500MeVMaxFit

Pair Type	Centrality	Fit Amplitudes					
		Amplitude	Error	Sig	Amplitude	Error	Sig
		0.9992 vs 0.9993			0.9993 vs 0.9994		
ΛK⁺	0-10%	2.564e-05	7.148e-05	No	5.203e-04	3.676e-04	No
	10-30%	3.322e-02	2.091e-02	No	5.850e-04	8.976e-04	No
	30-50%	4.748e-03	5.643e-03	No	-2.372e-02	8.418e-02	No
Λ̄K⁻	0-10%	4.757e-03	4.395e-02	No	6.412e-04	1.649e-03	No
	10-30%	5.303e-04	1.251e-03	No	3.083e-02	6.150e-03	Yes
	30-50%	1.818e-03	1.113e-03	No	3.013e-05	7.756e-04	No
ΛK⁻	0-10%	-7.716e-03	4.941e-02	No	2.136e-02	1.327e-02	Yes
	10-30%	-2.561e-02	9.671e-02	No	5.935e-03	2.936e-03	Yes
	30-50%	1.166e-04	5.787e-03	No	-8.552e-02	6.472e-01	No
Λ̄K⁺	0-10%	-3.651e-05	9.638e-05	No	7.891e-03	3.091e-02	No
	10-30%	-9.620e-04	1.854e-03	Yes	1.019e-04	1.806e-04	No
	30-50%	1.642e-03	1.472e-03	No	-1.052e-03	2.182e-03	No

Table 5: Λ(Λ̄)K± Analyses: Λ(Λ̄) Cosine of Pointing Angle

Λ(Λ̄) Cosine of Pointing Angle 500MeVMaxFit SimpleExp

Pair Type	Centrality	Fit Amplitudes					
		Amplitude	Error	Sig	Amplitude	Error	Sig
		0.9992 vs 0.9993			0.9993 vs 0.9994		
ΛK⁺	0-10%	-1.448e-05	9.361e-06	No	6.215e-04	4.967e-04	No
	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
Λ̄K⁻	0-10%	-4.085e-06	1.016e-05	No	1.211e-05	1.145e-05	No
	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
ΛK⁻	0-10%	3.409e-05	9.589e-06	Yes	1.170e-04	1.430e-04	No
	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
Λ̄K⁺	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 6: Λ(Λ̄)K± Analyses: Λ(Λ̄) Cosine of Pointing Angle

DCA to Primary Vertex of $p^+(\bar{p}^-)$ Daughter of $\Lambda(\bar{\Lambda})$ 500MeVMaxFit

Pair Type	Centrality	Fit Amplitudes					
		Amplitude	Error	Sig	Amplitude	Error	Sig
		0.5 vs 1 mm			1 vs 2 mm		
ΛK^+	0-10%	0.000e+00	0.000e+00	No	-1.712e-03	4.803e-04	Yes
	10-30%	-3.081e-08	9.643e-07	No	-7.545e-03	5.625e-03	Yes
	30-50%	0.000e+00	0.000e+00	No	-2.433e-03	1.467e-03	No
$\bar{\Lambda} K^-$	0-10%	0.000e+00	0.000e+00	No	-9.956e-04	1.046e-03	No
	10-30%	0.000e+00	0.000e+00	No	-6.565e-02	3.681e-01	No
	30-50%	0.000e+00	0.000e+00	No	2.580e-02	1.941e-01	No
ΛK^-	0-10%	0.000e+00	0.000e+00	No	2.999e-03	2.975e-03	No
	10-30%	1.831e-07	1.134e-06	No	5.955e-03	4.628e-03	No
	30-50%	0.000e+00	0.000e+00	No	-2.068e-01	2.323e+00	No
$\bar{\Lambda} K^+$	0-10%	0.000e+00	0.000e+00	No	-4.767e-04	2.701e-04	No
	10-30%	0.000e+00	0.000e+00	No	1.151e-03	1.010e-03	No
	30-50%	0.000e+00	0.000e+00	No	-1.356e-01	1.525e+00	No

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

DCA to Primary Vertex of $p^+(\bar{p}^-)$ Daughter of $\Lambda(\bar{\Lambda})$ 500MeVMaxFit SimpleExp

Pair Type	Centrality	Fit Amplitudes					
		Amplitude	Error	Sig	Amplitude	Error	Sig
		0.5 vs 1 mm			1 vs 2 mm		
ΛK^+	0-10%	0.000e+00	0.000e+00	No	-2.429e-04	2.561e-04	No
	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
$\bar{\Lambda} K^-$	0-10%	0.000e+00	0.000e+00	No	-9.883e-04	9.265e-04	No
	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
ΛK^-	0-10%	0.000e+00	0.000e+00	No	3.677e-03	4.028e-03	No
	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
$\bar{\Lambda} K^+$	0-10%	0.000e+00	0.000e+00	No	-4.252e-04	3.414e-04	No
	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 8: $\Lambda(\bar{\Lambda})K^\pm$ Analyses: DCA to Primary Vertex of $p^+(\bar{p}^-)$ Daughter of $\Lambda(\bar{\Lambda})$

DCA to Primary Vertex of $\pi^-(\pi^+)$ Daughter of $\Lambda(\bar{\Lambda})$ 500MeVMaxFit

Pair Type	Centrality	Fit Amplitudes					
		Amplitude	Error	Sig	Amplitude	Error	Sig
		2 vs 3 mm			3 vs 4 mm		
ΛK^+	0-10%	-2.578e-03	4.473e-02	No	-3.254e-03	4.068e-03	No
	10-30%	5.165e-04	7.025e-04	No	-4.162e-03	3.253e-03	No
	30-50%	1.504e-02	5.178e-03	Yes	-3.467e-02	2.791e-01	No
$\bar{\Lambda} K^-$	0-10%	1.026e-03	1.045e-03	No	-9.881e-03	3.186e-02	No
	10-30%	-1.050e-04	2.779e-04	No	-1.161e-02	6.045e-02	No
	30-50%	5.187e-03	5.521e-03	No	-3.825e-04	1.473e-03	No
ΛK^-	0-10%	-2.588e-03	3.666e-02	No	-5.881e-03	6.284e-02	No
	10-30%	5.937e-03	2.872e-04	Yes	2.942e-02	1.801e-02	No
	30-50%	3.185e-03	2.838e-03	No	-9.919e-03	9.801e-03	No
$\bar{\Lambda} K^+$	0-10%	-2.047e-04	6.630e-04	No	-3.852e-05	9.646e-05	No
	10-30%	-1.088e-02	2.905e-04	Yes	-3.925e-03	3.920e-03	Yes
	30-50%	1.456e-05	3.774e-04	No	-2.516e-03	2.087e-03	No

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

DCA to Primary Vertex of $\pi^-(\pi^+)$ Daughter of $\Lambda(\bar{\Lambda}$ 500MeVMaxFit SimpleExp)

Pair Type	Centrality	Fit Amplitudes					
		Amplitude	Error	Sig	Amplitude	Error	Sig
		2 vs 3 mm			3 vs 4 mm		
ΛK^+	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
$\bar{\Lambda} K^-$	0-10%	-9.069e-06	1.070e-05	No	-1.506e-04	2.900e-04	No
	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
ΛK^-	0-10%	-4.017e-05	5.473e-05	No	-3.418e-05	5.661e-05	No
	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
$\bar{\Lambda} K^+$	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 10: $\Lambda(\bar{\Lambda})K^{\pm}$ Analyses: DCA to Primary Vertex of $\pi^-(\pi^+)$ Daughter of $\Lambda(\bar{\Lambda})$

Average Separation of Λ(Λ̄) Daughter With Same Charge as K± 500MeVMaxFit

Pair Type	Daughter	Track	Centrality	Fit Amplitudes					
				Amplitude	Error	Sig	Amplitude	Error	Sig
				7 vs 8 mm			8 vs 9 mm		
ΛK+	p(Λ)	K+	0-10%	-1.028e-03	1.913e-04	Yes	-8.595e-04	1.950e-04	Yes
			10-30%	-1.165e-04	2.697e-05	Yes	-3.465e-05	2.604e-05	Yes
			30-50%	-1.402e-04	1.330e+01	No	3.312e-05	8.428e-05	No
Λ̄K−	p̄−(Λ̄)	K−	0-10%	-1.186e-03	2.039e-04	Yes	-1.314e-03	2.545e-04	Yes
			10-30%	-2.705e-05	2.832e-05	Yes	-5.341e-05	2.923e-05	Yes
			30-50%	1.314e-03	1.515e-04	Yes	1.459e-04	8.739e-05	No
ΛK−	π−(Λ)	K−	0-10%	-5.785e-05	1.394e-05	Yes	-4.428e-05	1.198e-05	Yes
			10-30%	-4.576e-05	5.522e-05	No	-5.990e-05	1.099e-05	Yes
			30-50%	4.274e-03	4.150e-03	No	6.659e-05	6.463e-05	No
Λ̄K+	π+(Λ̄)	K+	0-10%	-2.609e-04	1.122e-04	Yes	-4.269e-05	3.663e-05	No
			10-30%	-2.366e-04	1.483e-04	Yes	-7.622e-05	1.096e-04	No
			30-50%	2.265e-03	9.486e-04	Yes	2.629e-04	2.138e-04	No

Table 11: Λ(Λ̄)K$_S^0$ Analyses: Average Separation of Λ(Λ̄) Daughter With Same Charge as K±

Average Separation of Λ(Λ̄) Daughter With Same Charge as K± 500MeVMaxFit SimpleExp

Pair Type	Daughter	Track	Centrality	Fit Amplitudes					
				Amplitude	Error	Sig	Amplitude	Error	Sig
				7 vs 8 mm			8 vs 9 mm		
ΛK+	p(Λ)	K+	0-10%	1.310e-06	1.696e-07	Yes	4.374e-06	2.246e-07	Yes
			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
Λ̄K−	p̄−(Λ̄)	K−	0-10%	2.057e-06	1.499e-07	Yes	3.829e-06	1.327e-07	Yes
			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
ΛK−	π−(Λ)	K−	0-10%	4.686e-06	3.491e-07	Yes	2.311e-06	5.498e-07	Yes
			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
Λ̄K+	π+(Λ̄)	K+	0-10%	-3.063e-04	1.137e-04	Yes	-6.134e-05	6.307e-05	No
			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 12: Λ(Λ̄)K$_S^0$ Analyses: Average Separation of Λ(Λ̄) Daughter With Same Charge as K±