

DCA $\Lambda(\bar{\Lambda})$							
Pair Type	Centrality	Fit Amplitudes					
		Amplitude	Error	Sig	Amplitude	Error	Sig
		4 vs 5 mm			5 vs 6 mm		
$\Lambda K^+$	0-10%	6.666 e-03	20.858 e-03	No	1.019 e-02	6.227 e-02	No
	10-30%	6.310 e-03	29.855 e-03	No	2.460 e-02	4.712 e-02	No
	30-50%	5.296 e-02	6.016 e-02	No	7.354 e-04	4.393 e-04	No
$\bar{\Lambda} K^-$	0-10%	1.678 e-04	0.822 e-04	Yes	2.776 e-04	1.373 e-04	Yes
	10-30%	7.670 e-04	2.620 e-04	Yes	4.637 e-03	38.028 e-03	No
	30-50%	2.464 e-02	16.944 e-02	No	5.859 e-04	58.496 e-04	No
$\Lambda K^-$	0-10%	3.957 e-04	9.414 e-04	No	1.755 e-04	1.311 e-04	No
	10-30%	8.918 e-04	4.324 e-04	Yes	3.992 e-04	2.014 e-04	No
	30-50%	1.631 e-03	1.318 e-03	No	8.526 e-04	7.790 e-04	No
$\bar{\Lambda} K^+$	0-10%	1.581 e-04	2.243 e-04	No	1.169 e-02	11.672 e-02	No
	10-30%	5.592 e-04	2.294 e-02	Yes	1.115 e-03	1.203 e-03	No
	30-50%	3.128 e-03	2.911 e-03	No	5.595 e-05	80.720 e-05	No

**Table 1:**  $\Lambda(\bar{\Lambda})K^\pm$  Analyses: DCA  $\Lambda(\bar{\Lambda})$

DCA $\Lambda(\bar{\Lambda})$ SimpleExp							
Pair Type	Centrality	Fit Amplitudes					
		Amplitude	Error	Sig	Amplitude	Error	Sig
		4 vs 5 mm			5 vs 6 mm		
$\Lambda K^+$	0-10%	1.859 e-04	1.047 e-04	No	7.312 e-05	0.911 e-05	Yes
	10-30%	8.104 e-05	2.477 e-05	Yes	8.514 e-05	1.935 e-05	Yes
	30-50%	5.386 e-02	6.149 e-02	No	6.569 e-04	6.850 e-04	No
$\bar{\Lambda} K^-$	0-10%	1.679 e-04	0.978 e-04	No	7.168 e-05	0.964 e-05	Yes
	10-30%	9.280 e-04	4.156 e-04	Yes	2.773 e-05	2.045 e-05	No
	30-50%	2.969 e-04	0.615 e-04	Yes	7.119 e-05	4.811 e-05	No
$\Lambda K^-$	0-10%	4.973 e-05	1.210 e-05	Yes	3.881 e-05	0.941 e-05	Yes
	10-30%	1.648 e-04	0.256 e-04	Yes	4.941 e-40	2.904 e-04	No
	30-50%	5.229 e-04	3.738 e-04	No	8.450 e-04	11.134 e-04	No
$\bar{\Lambda} K^+$	0-10%	1.792 e-04	2.976 e-04	No	3.290 e-05	3.245 e-05	No
	10-30%	4.729 e-04	4.270 e-04	No	7.453 e-04	7.346 e-04	No
	30-50%	8.736 e-04	4.348 e-04	Yes	2.936 e-04	0.474 e-04	Yes

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

## 0.1 Systematic Errors: $\Lambda K^\pm$

Talk about stuff

DCA $\Lambda(\bar{\Lambda})$					
Pair Type	Centrality	Fit Results			
		A	B	C	Sig
4 vs 5 mm					
$\Lambda K^+$	0-10%	$6.666 \pm 20.858 \text{ e-03}$	$3.116 \pm 10.105 \text{ e-02}$	$6.538 \pm 20.853 \text{ e-03}$	No
	10-30%	$6.310 \pm 29.855 \text{ e-03}$	$4.761 \pm 23.621 \text{ e-02}$	$6.209 \pm 29.862 \text{ e-03}$	No
	30-50%	$5.296 \pm 6.016 \text{ e-02}$	$9.171 \pm 6.575 \text{ e+01}$	$2.076 \pm 5.810 \text{ e-05}$	No
$\bar{\Lambda} K^-$	0-10%	$1.678 \pm 0.822 \text{ e-04}$	$2.419 \pm 2.856 \text{ e+00}$	$1.563 \pm 6.051 \text{ e-05}$	Yes
	10-30%	$7.670 \pm 2.620 \text{ e-04}$	$3.339 \pm 2.060 \text{ e+00}$	$1.213 \pm 0.966 \text{ e-04}$	Yes
	30-50%	$2.464 \pm 16.944 \text{ e-02}$	$1.184 \pm 8.633 \text{ e-02}$	$2.476 \pm 16.943 \text{ e-02}$	No
$\Lambda K^-$	0-10%	$3.957 \pm 9.414 \text{ e-04}$	$7.815 \pm 31.891 \text{ e-01}$	$2.986 \pm 10.444 \text{ e-04}$	No
	10-30%	$8.918 \pm 4.324 \text{ e-04}$	$5.872 \pm 2.599 \text{ e+00}$	$2.242 \pm 0.417 \text{ e-04}$	Yes
	30-50%	$1.631 \pm 1.318 \text{ e-03}$	$8.578 \pm 4.413 \text{ e+00}$	$-1.896 \pm 0.704 \text{ e-04}$	No
$\bar{\Lambda} K^+$	0-10%	$1.581 \pm 2.243 \text{ e-04}$	$6.729 \pm 7.787 \text{ e+00}$	$1.107 \pm 1.703 \text{ e-05}$	No
	10-30%	$5.592 \pm 2.294 \text{ e-04}$	$3.409 \pm 2.143 \text{ e+00}$	$1.516 \pm 0.743 \text{ e-04}$	Yes
	30-50%	$3.128 \pm 2.911 \text{ e-03}$	$1.191 \pm 0.801 \text{ e+01}$	$-1.989 \pm 0.713 \text{ e-04}$	No
5 vs 6 mm					
$\Lambda K^+$	0-10%	$1.019 \pm 6.227 \text{ e-02}$	$-4.921 \pm 30.895 \text{ e-03}$	$1.023 \pm 6.227 \text{ e-02}$	No
	10-30%	$2.460 \pm 4.712 \text{ e-02}$	$1.339 \pm 2.665 \text{ e-02}$	$2.448 \pm 4.711 \text{ e-02}$	No
	30-50%	$7.354 \pm 4.393 \text{ e-04}$	$3.853 \pm 2.812 \text{ e+00}$	$1.418 \pm 1.032 \text{ e-04}$	No
$\bar{\Lambda} K^-$	0-10%	$2.776 \pm 1.373 \text{ e-04}$	$3.871 \pm 3.110 \text{ e-01}$	$2.911 \pm 1.388 \text{ e-04}$	No
	10-30%	$4.637 \pm 38.028 \text{ e-03}$	$1.810 \pm 15.686 \text{ e-02}$	$4.613 \pm 38.028 \text{ e-03}$	No
	30-50%	$5.859 \pm 58.496 \text{ e-04}$	$5.232 \pm 73.023 \text{ e-01}$	$5.003 \pm 61.000 \text{ e-04}$	No
$\Lambda K^-$	0-10%	$1.755 \pm 1.311 \text{ e-04}$	$2.245 \pm 3.323 \text{ e-01}$	$1.918 \pm 1.313 \text{ e-04}$	No
	10-30%	$3.992 \pm 2.014 \text{ e-04}$	$2.989 \pm 3.516 \text{ e+00}$	$5.011 \pm 10.424 \text{ e-05}$	No
	30-50%	$8.526 \pm 7.790 \text{ e-04}$	$7.271 \pm 5.421 \text{ e+00}$	$7.159 \pm 6.115 \text{ e-05}$	No
$\bar{\Lambda} K^+$	0-10%	$1.169 \pm 11.672 \text{ e-02}$	$2.815 \pm 29.038 \text{ e-03}$	$1.165 \pm 11.671 \text{ e-02}$	No
	10-30%	$1.115 \pm 1.203 \text{ e-03}$	$1.518 \pm 1.068 \text{ e+01}$	$-3.386 \pm 2.147 \text{ e-05}$	No
	30-50%	$5.595 \pm 80.721 \text{ e-05}$	$9.551 \pm 53.166 \text{ e+00}$	$-2.924 \pm 0.506 \text{ e-04}$	No

**Table 3:**  $\Lambda(\bar{\Lambda})K^\pm$  Analyses: DCA  $\Lambda(\bar{\Lambda})$

DCA $\Lambda(\bar{\Lambda})$ Daughters							
Pair Type	Centrality	Fit Amplitudes					
		Amplitude	Error	Sig	Amplitude	Error	Sig
		3 vs 4 mm			4 vs 5 mm		
$\Lambda K^+$	0-10%	$1.077 \text{ e-02}$	$0.933 \text{ e-02}$	No	$2.477 \text{ e-03}$	$1.215 \text{ e-03}$	Yes
	10-30%	$4.819 \text{ e-02}$	$39.667 \text{ e-02}$	No	$3.668 \text{ e-04}$	$20.752 \text{ e-04}$	No
	30-50%	$1.002 \text{ e-03}$	$1.848 \text{ e-03}$	No	$2.652 \text{ e-02}$	$22.007 \text{ e-02}$	No
$\bar{\Lambda} K^-$	0-10%	$3.447 \text{ e-05}$	$11.236 \text{ e-05}$	No	$3.323 \text{ e-03}$	$17.138 \text{ e-03}$	No
	10-30%	$3.139 \text{ e-02}$	$15.270 \text{ e-02}$	No	$1.053 \text{ e-03}$	$1.199 \text{ e-02}$	No
	30-50%	$8.406 \text{ e-04}$	$13.369 \text{ e-04}$	No	$2.359 \text{ e-03}$	$2.918 \text{ e-03}$	No
$\Lambda K^-$	0-10%	$2.908 \text{ e-03}$	$13.797 \text{ e-03}$	No	$5.250 \text{ e-04}$	$6.241 \text{ e-04}$	No
	10-30%	$2.643 \text{ e-04}$	$2.386 \text{ e-04}$	No	$4.442 \text{ e-04}$	$2.721 \text{ e-04}$	No
	30-50%	$1.134 \text{ e-02}$	$0.734 \text{ e-02}$	No	$4.163 \text{ e-02}$	$16.315 \text{ e-02}$	No
$\bar{\Lambda} K^+$	0-10%	$5.184 \text{ e-05}$	$18.302 \text{ e-05}$	No	$4.305 \text{ e-05}$	$8.438 \text{ e-05}$	No
	10-30%	$6.008 \text{ e-02}$	$21.671 \text{ e-02}$	No	$3.188 \text{ e-02}$	$2.276 \text{ e-02}$	No
	30-50%	$4.338 \text{ e-04}$	$6.151 \text{ e-04}$	No	$1.003 \text{ e-02}$	$10.768 \text{ e-02}$	No

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

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

Pair Type	Centrality	Fit Amplitudes					
		Amplitude	Error	Sig	Amplitude	Error	Sig
		3 vs 4 mm			4 vs 5 mm		
$\Lambda K^+$	0-10%	2.617 e-05	1.188 e-05	Yes	2.349 e-03	1.137 e-03	Yes
	10-30%	5.998 e-05	2.475 e-05	Yes	1.743 e-05	5.739 e-05	No
	30-50%	1.434 e-04	0.586 e-04	Yes	7.623 e-02	3.691 e-01	Yes
$\bar{\Lambda} K^-$	0-10%	7.637 e-05	1.267 e-05	Yes	4.164 e-04	5.566 e-04	No
	10-30%	6.623 e-04	9.620 e-04	No	8.930 e-05	6.244 e-05	No
	30-50%	8.433 e-04	12.475 e-04	No	2.463 e-04	1.298 e-04	No
$\Lambda K^-$	0-10%	1.475 e-04	1.052 e-04	No	5.810 e-04	6.690 e-04	No
	10-30%	7.090 e-05	2.563 e-05	Yes	6.331 e-05	6.231 e-05	No
	30-50%	3.588 e-04	2.293 e-04	No	1.727 e-04	0.480 e-04	Yes
$\bar{\Lambda} K^+$	0-10%	3.829 e-05	1.228 e-05	Yes	4.312 e-05	4.801 e-05	No
	10-30%	2.107 e-04	1.323 e-04	No	4.100 e-05	2.120 e-05	No
	30-50%	1.219 e-04	0.598 e-04	Yes	2.723 e-04	1.877 e-04	No

Table 5:  $\Lambda(\bar{\Lambda})K^\pm$  Analyses: DCA  $\Lambda(\bar{\Lambda})$  DaughtersDCA  $\Lambda(\bar{\Lambda})$  Daughters

Pair Type	Centrality	Fit Results			
		A	B	C	Sig
3 vs 4 mm					
$\Lambda K^+$	0-10%	$1.077 \pm 0.933 \text{ e-02}$	$7.176 \pm 4.044 \text{ e+01}$	$2.701 \pm 1.190 \text{ e-05}$	No
	10-30%	$4.819 \pm 39.667 \text{ e-02}$	$2.433 \pm 22.013 \text{ e-03}$	$-4.817 \pm 39.667 \text{ e-02}$	No
	30-50%	$1.002 \pm 1.848 \text{ e-03}$	$1.260 \pm 1.135 \text{ e+01}$	$1.320 \pm 0.615 \text{ e-04}$	No
$\bar{\Lambda} K^-$	0-10%	$3.447 \pm 11.236 \text{ e-05}$	$1.328 \pm 9.006 \text{ e+00}$	$-9.219 \pm 11.842 \text{ e-05}$	No
	10-30%	$3.139 \pm 15.270 \text{ e-02}$	$-5.269 \pm 27.000 \text{ e-03}$	$-3.127 \pm 15.270 \text{ e-02}$	No
	30-50%	$8.406 \pm 13.369 \text{ e-04}$	$8.945 \pm 8.560 \text{ e+00}$	$-1.415 \pm 7.112 \text{ e-05}$	No
$\Lambda K^-$	0-10%	$2.908 \pm 13.797 \text{ e-03}$	$3.936 \pm 20.023 \text{ e-02}$	$2.816 \pm 13.803 \text{ e-03}$	No
	10-30%	$2.643 \pm 2.386 \text{ e-04}$	$3.760 \pm 3.962 \text{ e+00}$	$1.083 \pm 0.561 \text{ e-04}$	No
	30-50%	$1.134 \pm 0.734 \text{ e-02}$	$2.873 \pm 1.046 \text{ e+01}$	$-2.318 \pm 0.605 \text{ e-04}$	No
$\bar{\Lambda} K^+$	0-10%	$5.184 \pm 18.302 \text{ e-05}$	$3.933 \text{ e-08} \pm 1.732 \text{ e-01}$	$1.355 \pm 18.509 \text{ e-05}$	No
	10-30%	$6.008 \pm 21.671 \text{ e-02}$	$4.413 \pm 16.702 \text{ e-03}$	$-5.986 \pm 21.671 \text{ e-02}$	No
	30-50%	$4.338 \pm 6.151 \text{ e-04}$	$4.071 \pm 6.176 \text{ e+00}$	$-1.767 \pm 1.209 \text{ e-04}$	No
4 vs 5 mm					
$\Lambda K^+$	0-10%	$2.477 \pm 1.215 \text{ e-03}$	$2.737 \pm 0.732 \text{ e+01}$	$-1.910 \pm 0.960 \text{ e-05}$	Yes
	10-30%	$3.668 \pm 20.752 \text{ e-04}$	$2.275 \pm 7.806 \text{ e+01}$	$1.190 \pm 2.037 \text{ e-05}$	No
	30-50%	$2.652 \pm 22.007 \text{ e-02}$	$6.015 \pm 53.413 \text{ e-03}$	$-2.647 \pm 22.006 \text{ e-02}$	No
$\bar{\Lambda} K^-$	0-10%	$3.323 \pm 17.139 \text{ e-03}$	$2.651 \pm 14.193 \text{ e-02}$	$3.260 \pm 17.135 \text{ e-03}$	No
	10-30%	$1.054 \pm 1.199 \text{ e-03}$	$1.877 \pm 0.956 \text{ e+00}$	$8.186 \pm 2.169 \text{ e-05}$	No
	30-50%	$2.359 \pm 2.918 \text{ e-03}$	$1.815 \pm 1.162 \text{ e+01}$	$-2.521 \pm 0.507 \text{ e-04}$	No
$\Lambda K^-$	0-10%	$5.250 \pm 6.241 \text{ e-04}$	$1.545 \pm 1.165 \text{ e+01}$	$6.657 \pm 10.526 \text{ e-06}$	No
	10-30%	$4.442 \pm 2.721 \text{ e-04}$	$3.281 \pm 20.315 \text{ e-02}$	$3.812 \pm 2.721 \text{ e-04}$	No
	30-50%	$4.163 \pm 16.314 \text{ e-02}$	$8.962 \pm 37.247 \text{ e-03}$	$-4.157 \pm 16.315 \text{ e-02}$	No
$\bar{\Lambda} K^+$	0-10%	$4.305 \pm 8.483 \text{ e-05}$	$3.404 \pm 8.038 \text{ e+00}$	$1.478 \pm 2.320 \text{ e-05}$	No
	10-30%	$3.188 \pm 2.276 \text{ e-02}$	$1.316 \pm 0.594 \text{ e+02}$	$-4.050 \pm 2.050 \text{ e-05}$	No
	30-50%	$1.003 \pm 10.768 \text{ e-02}$	$1.523 \pm 17.365 \text{ e-02}$	$-9.776 \pm 107.697 \text{ e-03}$	No

Table 6:  $\Lambda(\bar{\Lambda})K^\pm$  Analyses: DCA  $\Lambda(\bar{\Lambda})$  Daughters

$\Lambda(\bar{\Lambda})$ Cosine of Pointing Angle							
Pair Type	Centrality	Fit Amplitudes					
		Amplitude	Error	Sig	Amplitude	Error	Sig
		0.9992 vs 0.9993			0.9993 vs 0.9994		
$\Lambda K^+$	0-10%	8.394 e-05	10.174 e-05	No	6.421 e-04	5.369 e-04	No
	10-30%	3.348 e-02	2.067 e-02	No	7.091 e-04	9.065 e-04	No
	30-50%	6.816 e-03	38.867 e-03	No	4.748 e-04	7.771 e-04	No
$\bar{\Lambda} K^-$	0-10%	4.503 e-05	5.867 e-05	No	3.207 e-04	0.843 e-04	Yes
	10-30%	4.920 e-04	10.402 e-04	No	3.091 e-02	0.623 e-00	Yes
	30-50%	2.214 e-03	1.278 e-03	No	4.164 e-05	21.519 e-05	No
$\Lambda K^-$	0-10%	9.043 e-05	7.387 e-05	No	1.788 e-04	2.381 e-04	No
	10-30%	1.058 e-04	0.807 e-04	No	5.921 e-03	2.927 e-03	Yes
	30-50%	5.142 e-04	14.771 e-04	No	7.095 e-03	54.203 e-03	No
$\bar{\Lambda} K^+$	0-10%	5.468 e-05	27.046 e-05	No	9.797 e-05	7.333 e-05	No
	10-30%	1.028 e-03	12.697 e-03	No	1.389 e-02	7.163 e-02	No
	30-50%	3.528 e-02	11.990 e-02	No	3.424 e-02	18.616 e-02	No

**Table 7:**  $\Lambda(\bar{\Lambda})K^\pm$  Analyses:  $\Lambda(\bar{\Lambda})$  Cosine of Pointing Angle

$\Lambda(\bar{\Lambda})$ Cosine of Pointing Angle SimpleExp							
Pair Type	Centrality	Fit Amplitudes					
		Amplitude	Error	Sig	Amplitude	Error	Sig
		0.9992 vs 0.9993			0.9993 vs 0.9994		
$\Lambda K^+$	0-10%	2.922 e-05	0.509 e-05	Yes	6.171 e-04	4.981 e-04	No
	10-30%	3.356 e-02	2.061 e-02	No	7.164 e-05	15.654 e-05	No
	30-50%	4.609 e-03	5.399 e-03	No	1.521 e-04	0.269 e-04	Yes
$\bar{\Lambda} K^-$	0-10%	1.210 e-05	0.552 e-05	Yes	4.543 e-05	7.800 e-05	No
	10-30%	4.859 e-05	3.910 e-05	No	2.357 e-05	1.279 e-05	No
	30-50%	2.231 e-03	1.295 e-03	No	7.357 e-05	3.041 e-05	Yes
$\Lambda K^-$	0-10%	5.210 e-05	0.521 e-05	Yes	1.525 e-04	1.447 e-04	No
	10-30%	8.230 e-05	1.066 e-05	Yes	9.685 e-05	5.080 e-05	No
	30-50%	1.086 e-04	0.253 e-04	Yes	1.269 e-04	0.280 e-04	Yes
$\bar{\Lambda} K^+$	0-10%	4.122 e-05	3.995 e-05	No	3.550 e-05	0.600 e-05	Yes
	10-30%	1.043 e-04	0.542 e-04	No	4.208 e-05	1.228 e-05	Yes
	30-50%	5.300 e-05	2.548 e-05	Yes	1.027 e-04	0.287 e-04	Yes

**Table 8:**  $\Lambda(\bar{\Lambda})K^\pm$  Analyses:  $\Lambda(\bar{\Lambda})$  Cosine of Pointing Angle

$\Lambda(\Lambda)$ Cosine of Pointing Angle					
Pair Type	Centrality	Fit Results			
		A	B	C	Sig
0.9992 vs 0.9993					
$\Lambda K^+$	0-10%	$8.394 \pm 10.174 \text{ e-05}$	$6.374 \pm 6.317 \text{ e+00}$	$-3.343 \pm 0.744 \text{ e-05}$	No
	10-30%	$3.348 \pm 2.067 \text{ e-02}$	$1.736 \pm 0.802 \text{ e+01}$	$-40745 \pm 10.408 \text{ e-06}$	No
	30-50%	$6.816 \pm 38.867 \text{ e-03}$	$1.491 \pm 9.522 \text{ e-02}$	$-6.767 \pm 38.909 \text{ e-03}$	No
$\bar{\Lambda} K^-$	0-10%	$4.503 \pm 5.867 \text{ e-05}$	$4.120 \pm 6.105 \text{ e+00}$	$-1.730 \pm 1.139 \text{ e-05}$	No
	10-30%	$4.920 \pm 10.402 \text{ e-04}$	$1.738 \pm 2.243 \text{ e+01}$	$3.934 \pm 1.200 \text{ e-05}$	No
	30-50%	$2.214 \pm 1.278 \text{ e-03}$	$1.402 \pm 0.462 \text{ e+01}$	$-6.567 \pm 27.985 \text{ e-06}$	No
$\Lambda K^-$	0-10%	$9.043 \pm 7.387 \text{ e-05}$	$5.176 \pm 3.782 \text{ e+00}$	$5.901 \pm 0.853 \text{ e-05}$	No
	10-30%	$1.058 \pm 0.807 \text{ e-04}$	$2.506 \pm 4.654 \text{ e+00}$	$1.078 \pm 0.539 \text{ e-04}$	No
	30-50%	$5.142 \pm 14.771 \text{ e-04}$	$6.107 \pm 26.374 \text{ e-01}$	$-4.620 \pm 15.668 \text{ e-04}$	No
$\bar{\Lambda} K^+$	0-10%	$5.468 \pm 27.046 \text{ e-05}$	$8.844 \pm 83.461 \text{ e-01}$	$2.340 \pm 31.255 \text{ e-05}$	No
	10-30%	$1.028 \pm 12.697 \text{ e-03}$	$6.929 \pm 94.002 \text{ e-02}$	$9.385 \pm 127.075 \text{ e-04}$	No
	30-50%	$3.528 \pm 11.990 \text{ e-02}$	$5.403 \pm 18.179 \text{ e-03}$	$3.521 \pm 11.989 \text{ e-02}$	No
0.9993 vs 0.9994					
$\Lambda K^+$	0-10%	$6.421 \pm 5.369 \text{ e-04}$	$2.127 \pm 0.971 \text{ e+01}$	$4.555 \pm 5.836 \text{ e-06}$	No
	10-30%	$7.091 \pm 9.065 \text{ e-04}$	$1.757 \pm 1.295 \text{ e+01}$	$1.562 \pm 1.223 \text{ e-05}$	No
	30-50%	$4.748 \pm 7.771 \text{ e-04}$	$8.750 \pm 9.684 \text{ e+00}$	$1.637 \pm 0.326 \text{ e-05}$	No
$\bar{\Lambda} K^-$	0-10%	$3.207 \pm 0.843 \text{ e-04}$	$1.275 \pm 0.984 \text{ e-01}$	$-2.963 \pm 0.842 \text{ e-04}$	Yes
	10-30%	$3.091 \pm 0.623 \text{ e-02}$	$-8.176 \pm 1.383 \text{ e+01}$	$-2.661 \pm 1.275 \text{ e-05}$	Yes
	30-50%	$4.164 \pm 21.519 \text{ e-05}$	$2.930 \pm 11.890 \text{ e+00}$	$-8.176 \pm 6.177 \text{ e-05}$	No
$\Lambda K^-$	0-10%	$1.788 \pm 2.381 \text{ e-04}$	$7.813 \pm 8.736 \text{ e+00}$	$2.035 \pm 9.698 \text{ e-06}$	No
	10-30%	$5.921 \pm 2.927 \text{ e-03}$	$4.303 \pm 1.146 \text{ e+00}$	$5.516 \pm 1.211 \text{ e-05}$	Yes
	30-50%	$7.095 \pm 54.203 \text{ e-03}$	$2.524 \pm 20.040 \text{ e-02}$	$7.109 \pm 54.193 \text{ e-03}$	No
$\bar{\Lambda} K^+$	0-10%	$9.797 \pm 7.333 \text{ e-05}$	$3.692 \pm 3.754 \text{ e+00}$	$-4.914 \pm 1.702 \text{ e-05}$	No
	10-30%	$1.389 \pm 7.163 \text{ e-02}$	$4.324 \pm 22.008 \text{ e-03}$	$1.389 \pm 7.162 \text{ e-02}$	No
	30-50%	$3.424 \pm 18.616 \text{ e-02}$	$5.374 \pm 30.366 \text{ e-03}$	$3.422 \pm 18.615 \text{ e-02}$	No

**Table 9:**  $\Lambda(\bar{\Lambda})K^\pm$  Analyses:  $\Lambda(\bar{\Lambda})$  Cosine of Pointing Angle

DCA to Primary Vertex of $p^+(\bar{p}^-)$ Daughter of $\Lambda(\bar{\Lambda})$							
Pair Type	Centrality	Fit Amplitudes					
		Amplitude	Error	Sig	Amplitude	Error	Sig
		0.5 vs 1 mm			1 vs 2 mm		
$\Lambda K^+$	0-10%	0.000 e-00	0.000 e-00	No	2.562 e-02	22.557 e-02	No
	10-30%	8.206 e-08	612.046 e-08	No	8.864 e-03	6.253 e-03	No
	30-50%	0.000 e-00	0.000 e-00	No	2.358 e-03	2.022 e-03	No
$\bar{\Lambda} K^-$	0-10%	0.000 e-00	0.000 e-00	No	1.186 e-03	1.200 e-03	No
	10-30%	0.000 e-00	0.000 e-00	No	4.978 e-04	6.611 e-04	No
	30-50%	0.000 e-00	0.000 e-00	No	6.475 e-04	24.200 e-04	No
$\Lambda K^-$	0-10%	0.000 e-00	0.000 e-00	No	2.843 e-02	13.435 e-02	No
	10-30%	1.759 e-07	10.590 e-07	No	6.419 e-03	5.210 e-03	No
	30-50%	0.000 e-00	0.000 e-00	No	7.035 e-02	28.008 e-02	No
$\bar{\Lambda} K^+$	0-10%	0.000 e-00	0.000 e-00	No	4.477 e-04	3.459 e-04	No
	10-30%	0.000 e-00	0.000 e-00	No	1.255 e-03	0.928 e-03	No
	30-50%	0.000 e-00	0.000 e-00	No	8.232 e-04	6.959 e-04	No

**Table 10:**  $\Lambda(\bar{\Lambda})K^\pm$  Analyses: DCA to Primary Vertex of  $p^+(\bar{p}^-)$  Daughter of  $\Lambda(\bar{\Lambda})$

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

Pair Type	Centrality	Fit Amplitudes					
		Amplitude	Error	Sig	Amplitude	Error	Sig
		0.5 vs 1 mm			1 vs 2 mm		
$\Lambda K^+$	0-10%	0.000 e-00	0.000 e-00	No	9.608 e-05	6.160 e-05	No
	10-30%	4.124 e-08	12.733 e-08	No	1.295 e-04	1.506 e-04	No
	30-50%	0.000 e-00	0.000 e-00	No	2.389 e-03	1.970 e-03	No
$\bar{\Lambda} K^-$	0-10%	0.000 e-00	0.000 e-00	No	5.367 e-05	2.099 e-05	Yes
	10-30%	0.000 e-00	0.000 e-00	No	2.513 e-04	5.004 e-04	No
	30-50%	0.000 e-00	0.000 e-00	No	4.787 e-04	3.569 e-04	No
$\Lambda K^-$	0-10%	0.000 e-00	0.000 e-00	No	2.188 e-05	8.266 e-05	No
	10-30%	1.712 e-07	9.950 e-07	No	6.518 e-03	5.362 e-03	No
	30-50%	0.000 e-00	0.000 e-00	No	3.759 e-04	9.4144e-04	No
$\bar{\Lambda} K^+$	0-10%	0.000 e-00	0.000 e-00	No	4.498 e-04	3.527 e-04	No
	10-30%	0.000 e-00	0.000 e-00	No	1.046 e-03	0.793 e-03	No
	30-50%	0.000 e-00	0.000 e-00	No	8.169 e-04	7.310 e-04	No

**Table 11:**  $\Lambda(\bar{\Lambda})K^\pm$  Analyses: DCA to Primary Vertex of  $p^+(\bar{p}^-)$  Daughter of  $\Lambda(\bar{\Lambda})$ DCA to Primary Vertex of  $p^+(\bar{p}^-)$  Daughter of  $\Lambda(\bar{\Lambda})$ 

Pair Type	Centrality	Fit Results			
		A	B	C	Sig
0.5 vs 1 mm					
$\Lambda K^+$	0-10%	$0.000 \pm 0.000$ e-00	$0.000 \pm 0.000$ e+00	$0.000 \pm 0.000$ e-00	No
	10-30%	$8.206 \pm 612.046$ e-08	$3.673 \pm 343.362$ e-01	$4.290 \pm 623.696$ e-08	No
	30-50%	$0.000 \pm 0.000$ e-00	$0.000 \pm 0.000$ e+00	$0.000 \pm 0.000$ e-00	No
$\bar{\Lambda} K^-$	0-10%	$0.000 \pm 0.000$ e-00	$0.000 \pm 0.000$ e+00	$0.000 \pm 0.000$ e-00	No
	10-30%	$0.000 \pm 0.000$ e-00	$0.000 \pm 0.000$ e+00	$0.000 \pm 0.000$ e-00	No
	30-50%	$0.000 \pm 0.000$ e-00	$0.000 \pm 0.000$ e+00	$0.000 \pm 0.000$ e-00	No
$\Lambda K^-$	0-10%	$0.000 \pm 0.000$ e-00	$0.000 \pm 0.000$ e+00	$0.000 \pm 0.000$ e-00	No
	10-30%	$1.759 \pm 10.590$ e-07	$7.469 \pm 34.135$ e+00	$1.023 \pm 54.047$ e-09	No
	30-50%	$0.000 \pm 0.000$ e-00	$0.000 \pm 0.000$ e+00	$0.000 \pm 0.000$ e-00	No
$\bar{\Lambda} K^+$	0-10%	$0.000 \pm 0.000$ e-00	$0.000 \pm 0.000$ e+00	$0.000 \pm 0.000$ e-00	No
	10-30%	$0.000 \pm 0.000$ e-00	$0.000 \pm 0.000$ e+00	$0.000 \pm 0.000$ e-00	No
	30-50%	$0.000 \pm 0.000$ e-00	$0.000 \pm 0.000$ e+00	$0.000 \pm 0.000$ e-00	No
1 vs 2 mm					
$\Lambda K^+$	0-10%	$2.562 \pm 22.557$ e-02	$2.318 \pm 21.896$ e-03	$2.551 \pm 22.557$ e-02	No
	10-30%	$8.865 \pm 6.253$ e-03	$2.891 \pm 1.136$ e+01	$8.574 \pm 4.451$ e-05	No
	30-50%	$2.358 \pm 2.022$ e-03	$6.901 \pm 4.322$ e+00	$2.661 \pm 14.400$ e-05	No
$\bar{\Lambda} K^-$	0-10%	$1.186 \pm 1.200$ e-03	$1.695 \pm 0.933$ e+01	$-4.735 \pm 2.180$ e-05	No
	10-30%	$4.978 \pm 6.611$ e-04	$4.878 \pm 10.407$ e-01	$3.678 \pm 6.766$ e-04	No
	30-50%	$6.475 \pm 24.200$ e-04	$9.337 \pm 18.796$ e+00	$4.398 \pm 1.278$ e-04	No
$\Lambda K^-$	0-10%	$2.843 \pm 13.435$ e-02	$3.502 \pm 17.351$ e-03	$2.837 \pm 13.436$ e-02	No
	10-30%	$6.419 \pm 5.210$ e-03	$2.598 \pm 1.201$ e+01	$-1.471 \pm 4.620$ e-05	No
	30-50%	$7.035 \pm 28.008$ e-02	$1.628 \pm 6.527$ e-02	$6.980 \pm 27.996$ e-02	No
$\bar{\Lambda} K^+$	0-10%	$4.477 \pm 3.459$ e-04	$6.944 \pm 3.823$ e+00	$5.092 \pm 26.253$ e-06	No
	10-30%	$1.255 \pm 0.928$ e-03	$7.696 \pm 4.058$ e+00	$5.260 \pm 5.659$ e-05	No
	30-50%	$8.232 \pm 6.959$ e-04	$2.142 \pm 5.796$ e+00	$4.035 \pm 73.973$ e-05	No

**Table 12:**  $\Lambda(\bar{\Lambda})K^\pm$  Analyses: DCA to Primary Vertex of  $p^+(\bar{p}^-)$  Daughter of  $\Lambda(\bar{\Lambda})$

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

Pair Type	Centrality	Fit Amplitudes					
		Amplitude	Error	Sig	Amplitude	Error	Sig
		2 vs 3 mm			3 vs 4 mm		
$\Lambda K^+$	0-10%	4.843 e-03	18.205 e-03	No	3.108 e-03	3.879 e-03	No
	10-30%	1.895 e-02	7.504 e-02	No	2.906 e-02	8.290 e-02	No
	30-50%	4.478 e-02	10.992 e-02	No	1.124 e-03	2.850 e-03	No
$\bar{\Lambda} K^-$	0-10%	5.539 e-03	24.491 e-03	No	1.614 e-04	2.137 e-04	No
	10-30%	1.357 e-04	1.308 e+02	No	3.438 e-04	1.172 e-04	Yes
	30-50%	6.511 e-03	5.171 e-03	No	5.130 e-04	4.026 e-04	No
$\Lambda K^-$	0-10%	3.514 e-05	5.587 e-05	No	1.187 e-04	0.845 e-04	No
	10-30%	8.213 e-07	793.398 e-07	No	7.553 e-03	37.211 e-03	No
	30-50%	4.040 e-02	23.899 e-02	No	4.779 e-04	4.900 e-04	No
$\bar{\Lambda} K^+$	0-10%	3.105 e-04	3.344 e-04	No	7.463 e-05	8.161 e-05	No
	10-30%	4.365 e-04	3.362 e-04	No	7.773 e-03	60.765 e-03	No
	30-50%	3.146 e-02	24.169 e-02	No	2.535 e-03	2.080 e-03	No

**Table 13:**  $\Lambda(\bar{\Lambda})K^\pm$  Analyses: DCA to Primary Vertex of  $\pi^-(\pi^+)$  Daughter of  $\Lambda(\bar{\Lambda})$ DCA to Primary Vertex of  $\pi^-(\pi^+)$  Daughter of  $\Lambda(\bar{\Lambda})$  SimpleExp

Pair Type	Centrality	Fit Amplitudes					
		Amplitude	Error	Sig	Amplitude	Error	Sig
		2 vs 3 mm			3 vs 4 mm		
$\Lambda K^+$	0-10%	1.404 e-05	0.557 e-05	Yes	2.773 e-03	4.076 e-03	No
	10-30%	5.158 e-05	4.849 e-05	No	4.003 e-05	1.537 e-05	Yes
	30-50%	1.948 e-04	0.281 e-04	Yes	1.293 e-04	0.381 e-04	Yes
$\bar{\Lambda} K^-$	0-10%	3.412 e-06	31.010 e-06	No	1.292 e-05	0.737 e-05	No
	10-30%	4.179 e-05	1.256 e-05	Yes	3.348 e-04	2.737 e-04	No
	30-50%	3.761 e-03	2.491 e-03	No	5.462 e-04	10.737 e-04	No
$\Lambda K^-$	0-10%	3.044 e-05	0.577 e-05	Yes	5.793 e-05	8.022 e-05	No
	10-30%	4.823 e-05	1.221 e-05	Yes	8.026 e-05	1.586 e-05	Yes
	30-50%	8.278 e-05	13.261 e-05	No	1.516 e-04	0.395 e-04	Yes
$\bar{\Lambda} K^+$	0-10%	1.995 e-05	1.807 e-05	No	1.645 e-05	0.714 e-05	Yes
	10-30%	4.629 e-04	3.597 e-04	No	7.971 e-05	1.562 e-05	Yes
	30-50%	2.733 e-04	0.291 e-04	Yes	2.922 e-04	3.621 e-04	No

**Table 14:**  $\Lambda(\bar{\Lambda})K^\pm$  Analyses: DCA to Primary Vertex of  $\pi^-(\pi^+)$  Daughter of  $\Lambda(\bar{\Lambda})$

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

Pair Type	Centrality	Fit Results			
		A	B	C	Sig
2 vs 3 mm					
$\Lambda K^+$	0-10%	$4.843 \pm 18.205 \text{ e-03}$	$9.674 \pm 37.544 \text{ e-03}$	$4.827 \pm 18.204 \text{ e-03}$	No
	10-30%	$1.895 \pm 7.504 \text{ e-02}$	$3.934 \pm 15.905 \text{ e-03}$	$1.888 \pm 7.504 \text{ e-02}$	No
	30-50%	$4.478 \pm 10.992 \text{ e-02}$	$5.103 \pm 13.475 \text{ e-03}$	$4.489 \pm 10.993 \text{ e-02}$	No
$\bar{\Lambda} K^-$	0-10%	$5.539 \pm 24.491 \text{ e-03}$	$6.671 \pm 29.772 \text{ e-03}$	$5.519 \pm 24.491 \text{ e-03}$	No
	10-30%	$1.357 \text{ e-04} \pm 1.308 \text{ e+02}$	$3.926 \pm 1.000 \text{ e+00}$	$5.919 \text{ e-05} \pm 1.308 \text{ e+02}$	No
	30-50%	$6.511 \pm 5.171 \text{ e-03}$	$2.261 \pm 1.193 \text{ e+01}$	$6.577 \pm 3.241 \text{ e-05}$	No
$\Lambda K^-$	0-10%	$3.514 \pm 5.587 \text{ e-05}$	$3.579 \pm 6.873 \text{ e+00}$	$-3.574 \pm 1.324 \text{ e-05}$	No
	10-30%	$8.213 \pm 793.398 \text{ e-07}$	$2.404 \pm 1.416 \text{ e+00}$	$4.845 \pm 2.400 \text{ e-05}$	No
	30-50%	$4.040 \pm 23.899 \text{ e-02}$	$4.753 \pm 29.107 \text{ e-03}$	$4.027 \pm 23.899 \text{ e-01}$	No
$\bar{\Lambda} K^+$	0-10%	$3.105 \pm 3.344 \text{ e-04}$	$1.657 \pm 0.992 \text{ e+01}$	$1.301 \pm 0.600 \text{ e-05}$	No
	10-30%	$4.365 \pm 3.362 \text{ e-04}$	$8.850 \pm 4.682 \text{ e+00}$	$8.855 \pm 14.767 \text{ e-06}$	No
	30-50%	$3.145 \pm 24.169 \text{ e-02}$	$2.579 \pm 18.410 \text{ e-03}$	$3.168 \pm 24.166 \text{ e-02}$	No
3 vs 4 mm					
$\Lambda K^+$	0-10%	$3.108 \pm 3.879 \text{ e-03}$	$4.904 \pm 3.713 \text{ e+01}$	$-5.192 \pm 7.072 \text{ e-06}$	No
	10-30%	$2.906 \pm 8.290 \text{ e-02}$	$6.626 \pm 20.603 \text{ e-03}$	$2.898 \pm 8.290 \text{ e-02}$	No
	30-50%	$1.124 \pm 2.850 \text{ e-03}$	$6.277 \pm 24.280 \text{ e-01}$	$8.969 \pm 30.414 \text{ e-04}$	No
$\bar{\Lambda} K^-$	0-10%	$1.614 \pm 2.137 \text{ e-04}$	$9.632 \pm 8.149 \text{ e+00}$	$1.628 \pm 0.851 \text{ e-05}$	No
	10-30%	$3.438 \pm 1.172 \text{ e-04}$	$2.386 \pm 2.471 \text{ e+00}$	$1.169 \pm 1.010 \text{ e-04}$	Yes
	30-50%	$5.130 \pm 4.026 \text{ e-04}$	$3.260 \pm 4.410 \text{ e+00}$	$1.581 \pm 1.413 \text{ e-04}$	No
$\Lambda K^-$	0-10%	$1.187 \pm 0.845 \text{ e-04}$	$1.357 \pm 2.598 \text{ e+00}$	$6.238 \pm 10.980 \text{ e-05}$	No
	10-30%	$7.553 \pm 37.211 \text{ e-03}$	$1.250 \pm 6.434 \text{ e-02}$	$7.575 \pm 37.209 \text{ e-03}$	No
	30-50%	$4.779 \pm 4.900 \text{ e-04}$	$3.260 \pm 6.554 \text{ e+00}$	$2.349 \pm 1.759 \text{ e-04}$	No
$\bar{\Lambda} K^+$	0-10%	$7.463 \pm 8.161 \text{ e-05}$	$4.243 \pm 5.191 \text{ e+00}$	$2.495 \pm 1.477 \text{ e-05}$	No
	10-30%	$7.773 \pm 60.765 \text{ e-03}$	$1.174 \pm 9.428 \text{ e-02}$	$7.795 \pm 60.755 \text{ e-03}$	No
	30-50%	$2.535 \pm 2.080 \text{ e-03}$	$1.533 \pm 0.716 \text{ e+01}$	$-7.443 \pm 4.136 \text{ e-05}$	No

**Table 15:**  $\Lambda(\bar{\Lambda})K^\pm$  Analyses: DCA to Primary Vertex of  $\pi^-(\pi^+)$  Daughter of  $\Lambda(\bar{\Lambda})$ Average Separation of  $\Lambda(\bar{\Lambda})$  Daughter With Same Charge as  $K^\pm$ 

Pair Type	Daughter	Track	Centrality	Fit Amplitudes					
				Amplitude	Error	Sig	Amplitude	Error	Sig
				7 vs 8 mm			8 vs 9 mm		
$\Lambda K^+$	$p(\Lambda)$	$K^+$	0-10%	$3.686 \text{ e-06}$	$1.868 \text{ e-06}$	No	$2.810 \text{ e-06}$	$2.876 \text{ e-06}$	No
			10-30%	$1.913 \text{ e-06}$	$3.456 \text{ e-06}$	No	$4.146 \text{ e-06}$	$2.760 \text{ e-06}$	No
			30-50%	$2.437 \text{ e-05}$	$2.000 \text{ e-05}$	No	$4.171 \text{ e-06}$	$21.075 \text{ e-06}$	No
$\bar{\Lambda} K^-$	$\bar{p}^-(\bar{\Lambda})$	$K^-$	0-10%	$7.353 \text{ e-07}$	$20.912 \text{ e-07}$	No	$3.354 \text{ e-05}$	$0.674 \text{ e-05}$	Yes
			10-30%	$2.786 \text{ e-05}$	$0.757 \text{ e-05}$	Yes	$8.456 \text{ e-07}$	$68.740 \text{ e-05}$	No
			30-50%	$3.246 \text{ e-03}$	$0.258 \text{ e-03}$	Yes	$2.117 \text{ e-05}$	$2.576 \text{ e-05}$	No
$\Lambda K^-$	$\pi^-(\Lambda)$	$K^-$	0-10%	$2.628 \text{ e-05}$	$0.373 \text{ e-05}$	Yes	$4.464 \text{ e-06}$	$3.426 \text{ e-06}$	No
			10-30%	$8.931 \text{ e-08}$	$749.009 \text{ e-08}$	No	$4.327 \text{ e-06}$	$8.289 \text{ e-06}$	No
			30-50%	$8.489 \text{ e-06}$	$18.542 \text{ e-06}$	No	$6.277 \text{ e-05}$	$2.490 \text{ e-05}$	Yes
$\bar{\Lambda} K^+$	$\pi^+(\bar{\Lambda})$	$K^+$	0-10%	$4.788 \text{ e-06}$	$2.222 \text{ e-06}$	Yes	$3.779 \text{ e-06}$	$1.987 \text{ e-06}$	No
			10-30%	$6.776 \text{ e-06}$	$6.236 \text{ e-06}$	No	$1.142 \text{ e-05}$	$0.374 \text{ e-05}$	Yes
			30-50%	$5.680 \text{ e-04}$	$1.505 \text{ e-04}$	Yes	$2.448 \text{ e-06}$	$24.520 \text{ e-06}$	No

**Table 16:**  $\Lambda(\bar{\Lambda})K_S^0$  Analyses: Average Separation of  $\Lambda(\bar{\Lambda})$  Daughter With Same Charge as  $K^\pm$



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

Pair Type	Daughter	Track	Centrality	Fit Amplitudes					
				Amplitude	Error	Sig	Amplitude	Error	Sig
				7 vs 8 mm			8 vs 9 mm		
$\Lambda K^+$	$p(\Lambda)$	$K^+$	0-10%	1.292 e-06	0.071 e-06	Yes	4.293 e-06	0.467 e-06	Yes
			10-30%	1.273 e-06	0.918 e-06	No	2.789 e-06	6.481 e-06	No
			30-50%	5.756 e-06	0.884 e-06	Yes	1.039 e-05	0.366 e-05	Yes
$\bar{\Lambda} K^-$	$\bar{p}^-(\bar{\Lambda})$	$K^-$	0-10%	2.174 e-06	0.382 e-06	Yes	7.280 e-07	0.192 e-07	Yes
			10-30%	4.654 e-06	0.264 e-06	Yes	4.714 e-06	0.790 e-06	Yes
			30-50%	3.859 e-03	0.282 e-03	Yes	1.617 e-05	0.460 e-05	Yes
$\Lambda K^-$	$\pi^-(\Lambda)$	$K^-$	0-10%	4.837 e-06	0.126 e-06	Yes	5.328 e-06	0.606 e-06	Yes
			10-30%	4.573 e-06	1.194 e-06	Yes	5.761 e-06	1.170 e-06	Yes
			30-50%	7.689 e-06	1.176 e-06	Yes	7.790 e-06	1.120 e-06	Yes
$\bar{\Lambda} K^+$	$\pi^+(\bar{\Lambda})$	$K^+$	0-10%	1.913 e-06	1.201 e+00	No	1.546 e-06	0.073 e-06	Yes
			10-30%	3.534 e-06	1.269 e-06	Yes	2.443 e-07	1.002 e+00	No
			30-50%	6.155 e-04	1.712 e-04	Yes	7.848 e-06	0.108 e-06	Yes

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