

DCA $\Lambda(\bar{\Lambda})$			
Pair Type	Centrality	p-value	
		4 vs 5 mm	5 vs 6 mm
$\Lambda K^+$	0-10%	0.01	3.2e-5
	10-30%	5.9e-3	0.22
	30-50%	0.85	0.84
$\bar{\Lambda} K^-$	0-10%	0.15	0.03
	10-30%	3.1e-4	0.42
	30-50%	7.2e-3	0.42
$\Lambda K^-$	0-10%	0.35	0.05
	10-30%	1.4e-5	5.6e-3
	30-50%	0.05	0.70
$\bar{\Lambda} K^+$	0-10%	0.84	0.16
	10-30%	0.16	3.3e-3
	30-50%	2.5e-4	0.20

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

DCA $\Lambda(\bar{\Lambda})$ Daughters			
Pair Type	Centrality	p-value	
		3 vs 4 mm	4 vs 5 mm
$\Lambda K^+$	0-10%	0.79	0.06
	10-30%	0.10	0.60
	30-50%	8.4e-3	0.25
$\bar{\Lambda} K^-$	0-10%	2.4e-4	0.63
	10-30%	0.06	3.3e-4
	30-50%	0.03	0.04
$\Lambda K^-$	0-10%	0.70	0.40
	10-30%	0.94	0.04
	30-50%	0.05	9.5e-5
$\bar{\Lambda} K^+$	0-10%	0.09	0.04
	10-30%	0.10	0.17
	30-50%	0.10	0.43

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

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

Talk about stuff

$\Lambda(\bar{\Lambda})$ Cosine of Pointing Angle			
Pair Type	Centrality	p-value	
		0.9992 vs 0.9993	0.9993 vs 0.9994
$\Lambda K^+$	0-10%	0.08	6.2e-3
	10-30%	8.7e-4	0.06
	30-50%	0.31	1.1e-3
$\bar{\Lambda} K^-$	0-10%	0.98	0.92
	10-30%	0.06	1.4e-16
	30-50%	0.47	0.40
$\Lambda K^-$	0-10%	1.0e-4	6.3e-3
	10-30%	5.7e-5	2.3e-3
	30-50%	1.9e-3	6.5e-3
$\bar{\Lambda} K^+$	0-10%	0.08	0.01
	10-30%	0.09	0.04
	30-50%	0.39	0.34

**Table 3:**  $\Lambda(\bar{\Lambda})K^\pm$  Analyses:  $\Lambda(\bar{\Lambda})$  Cosine of Pointing Angle

DCA to Primary Vertex of $p^+(\bar{p}^-)$ Daughter of $\Lambda(\bar{\Lambda})$			
Pair Type	Centrality	p-value	
		0.5 vs 1.0 mm	1.0 vs 2.0 mm
$\Lambda K^+$	0-10%	1	5.5e-3
	10-30%	1	0.15
	30-50%	1	0.13
$\bar{\Lambda} K^-$	0-10%	1	0.16
	10-30%	1	0.55
	30-50%	1	0.03
$\Lambda K^-$	0-10%	1	0.30
	10-30%	1	0.70
	30-50%	1	0.44
$\bar{\Lambda} K^+$	0-10%	1	0.40
	10-30%	1	0.67
	30-50%	1	0.03

**Table 4:**  $\Lambda(\bar{\Lambda})K^\pm$  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	p-value	
		2.0 vs 3.0 mm	3.0 vs 4.0 mm
$\Lambda K^+$	0-10%	0.01	0.15
	10-30%	0.28	0.08
	30-50%	1.9e-8	6.1e-4
$\bar{\Lambda} K^-$	0-10%	0.55	0.36
	10-30%	0.38	0.31
	30-50%	8.4e-4	0.03
$\Lambda K^-$	0-10%	7.7e-3	0.35
	10-30%	0.01	4.0e-3
	30-50%	0.02	0.06
$\bar{\Lambda} K^+$	0-10%	0.12	0.01
	10-30%	0.63	4.1e-3
	30-50%	6.2e-11	0.44

**Table 5:**  $\Lambda(\bar{\Lambda})K^\pm$  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	p-value	
				7.0 vs 8.0 cm	8.0 vs 9.0 cm
$\Lambda K^+$	$p(\Lambda)$	$K^+$	0-10%	2.1e-41	1.9e-186
			10-30%	0.86	0.61
			30-50%	0.999	0.10
$\bar{\Lambda} K^-$	$\bar{p}(\bar{\Lambda})$	$K^-$	0-10%	3.7e-78	0.00
			10-30%	1.4e-27	9.6e-62
			30-50%	0.00	4.4e-3
$\Lambda K^-$	$\pi^-(\Lambda)$	$K^-$	0-10%	1.0e-236	5.1e-243
			10-30%	6.2e-17	4.6e-43
			30-50%	0.09	0.99
$\bar{\Lambda} K^+$	$\pi^+(\bar{\Lambda})$	$K^+$	0-10%	1.4e-76	6.9e-46
			10-30%	4.7e-14	0.61
			30-50%	3.0e-14	3.3e-4

**Table 6:**  $\Lambda(\bar{\Lambda})K_S^0$  Analyses: Average Separation of  $\Lambda(\bar{\Lambda})$  Daughter With Same Charge as  $K^\pm$