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

| Pair Type | Centrality | p-value | |
|---|---|---|---|
| | | 0.4 vs 0.5 mm | 0.5 vs 0.6 mm |
| $\Lambda K^0_S$ | 0-10% | 0.36 | 0.05 |
| | 10-30% | 0.10 | 0.37 |
| | 30-50% | 0.27 | 6.7e-8 |
| $\bar{\Lambda} K^0_S$ | 0-10% | 0.08 | 3.2e-4 |
| | 10-30% | 0.15 | 0.31 |
| | 30-50% | 3.7e-3 | 7.1e-3 |

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

DCA $K^0_S$

| Pair Type | Centrality | p-value | |
|---|---|---|---|
| | | 0.2 vs 0.3 mm | 0.3 vs 0.4 mm |
| $\Lambda K^0_S$ | 0-10% | 0.32 | 0.76 |
| | 10-30% | 2.1e-3 | 0.13 |
| | 30-50% | 0.04 | 0.06 |
| $\bar{\Lambda} K^0_S$ | 0-10% | 2.8e-7 | 1.3e-4 |
| | 10-30% | 0.22 | 0.62 |
| | 30-50% | 0.76 | 0.02 |

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

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

| Pair Type | Centrality | p-value | |
|---|---|---|---|
| | | 0.3 vs 0.4 mm | 0.4 vs 0.5 mm |
| $\Lambda K^0_S$ | 0-10% | 0.39 | 0.51 |
| | 10-30% | 0.30 | 0.84 |
| | 30-50% | 1.3e-38 | 8.7e-3 |
| $\bar{\Lambda} K^0_S$ | 0-10% | 0.35 | 0.07 |
| | 10-30% | 0.07 | 0.13 |
| | 30-50% | 0.44 | 0.01 |

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

## 0.1 Systematic Errors: $\Lambda\mathbf{K}^0_S$

Talk about stuff

DCA $K^0_S$ Daughters

| Pair Type | Centrality | p-value | |
|---|---|---|---|
| | | 0.2 vs 0.3 mm | 0.3 vs 0.4 mm |
| $\Lambda K^0_S$ | 0-10% | 0.08 | 0.29 |
| | 10-30% | 0.01 | 0.47 |
| | 30-50% | 6.6e-3 | 0.82 |
| $\bar{\Lambda} K^0_S$ | 0-10% | 0.38 | 0.44 |
| | 10-30% | 0.13 | 0.25 |
| | 30-50% | 0.06 | 0.53 |

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

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

| Pair Type | Centrality | p-value | |
|---|---|---|---|
| | | 0.9992 vs 0.9993 mm | 0.9993 vs 0.9994 mm |
| $\Lambda K^0_S$ | 0-10% | 0.17 | 0.50 |
| | 10-30% | 1.2e-3 | 0.10 |
| | 30-50% | 5.4e-3 | 5.6e-9 |
| $\bar{\Lambda} K^0_S$ | 0-10% | 0.87 | 0.77 |
| | 10-30% | 0.09 | 0.13 |
| | 30-50% | 9.8e-9 | 0.09 |

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

$K^0_S$ Cosine of Pointing Angle

| Pair Type | Centrality | p-value | |
|---|---|---|---|
| | | 0.9992 vs 0.9993 mm | 0.9993 vs 0.9994 mm |
| $\Lambda K^0_S$ | 0-10% | 0.02 | 0.01 |
| | 10-30% | 0.34 | 0.63 |
| | 30-50% | 0.55 | 1.8e-7 |
| $\bar{\Lambda} K^0_S$ | 0-10% | 0.30 | 0.18 |
| | 10-30% | 2.2e-4 | 0.32 |
| | 30-50% | 0.41 | 0.11 |

**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 $\Lambda(\bar{\Lambda})$

| Pair Type | Centrality | p-value | |
|---|---|---|---|
| | | 0.05 vs 0.1 mm | 0.1 vs 0.2 mm |
| $\Lambda K^0_S$ | 0-10% | 1 | 0.33 |
| | 10-30% | 1 | 0.68 |
| | 30-50% | 1 | 0.05 |
| $\bar{\Lambda} K^0_S$ | 0-10% | 1 | 0.34 |
| | 10-30% | 1 | 0.09 |
| | 30-50% | 1 | 0.32 |

**Table 7:** $\Lambda(\bar{\Lambda})K^0_S$ 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 | |
|---|---|---|---|
| | | 0.2 vs 0.3 mm | 0.3 vs 0.4 mm |
| $\Lambda K^0_S$ | 0-10% | 0.07 | 0.44 |
| | 10-30% | 0.03 | 0.20 |
| | 30-50% | 9.0e-6 | 0.10 |
| $\bar{\Lambda} K^0_S$ | 0-10% | 1.4e-3 | 0.88 |
| | 10-30% | 0.05 | 3.3e-3 |
| | 30-50% | 0.03 | 1.4e-5 |

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

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

| Pair Type | Centrality | p-value | |
|---|---|---|---|
| | | 0.2 vs 0.3 mm | 0.3 vs 0.4 mm |
| $\Lambda K^0_S$ | 0-10% | 0.14 | 9.6e-4 |
| | 10-30% | 0.07 | 0.86 |
| | 30-50% | 0.93 | 0.11 |
| $\bar{\Lambda} K^0_S$ | 0-10% | 0.06 | 0.17 |
| | 10-30% | 0.11 | 0.69 |
| | 30-50% | 2.0e-14 | 0.51 |

**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 $K^0_S$

| Pair Type | Centrality | p-value | |
|---|---|---|---|
| | | 0.2 vs 0.3 mm | 0.3 vs 0.4 mm |
| $\Lambda K^0_S$ | 0-10% | 0.15 | 0.16 |
| | 10-30% | 0.31 | 0.12 |
| | 30-50% | 0.66 | 0.22 |
| $\bar{\Lambda} K^0_S$ | 0-10% | 1.1e-4 | 1.7e-14 |
| | 10-30% | 0.01 | 0.82 |
| | 30-50% | 0.44 | 0.05 |

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