0.1 Systematic Errors: ΛK_S^0

0.1.1 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 mm}

4. DCA K_S^0 Daughters: {2, 3, 4 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 mm}

8. DCA to Primary Vertex of $\pi^-(\pi^+)$ Daughter of $\Lambda(\bar{\Lambda})$: {0.5, 1, 2 mm}

9. DCA to Primary Vertex of π^+ Daughter of K_S^0: {2, 3, 4 mm}

10. DCA to Primary Vertex of π^- Daughter of K_S^0: {2, 3, 4 mm}

11. Average Separation of Like-Charge Daughters: {5, 6, 7 cm}

0.1.2 Non-Flat Background

Still needs to be done. Currently, we fit our non-flat background with a linear function. We will also use a quadratic form, and analyze how this choice affects our extracted parameter sets.

0.1.3 Fit Range

Our choice of k^* fit range was varied by $\pm\,25\%$. The resulting uncertainties in the extracted parameter sets were combined with our uncertainties arising from our particle and pair cuts.