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Λ K femtoscopy in Pb-Pb collisions at $\sqrt{s_{\text{NN}}} = 2.76$ TeV

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Abstract

We present our femtoscopy analysis of Λ K correlations in Pb-Pb collisions at $\sqrt{s_{\text{NN}}} = 2.76$ TeV from ALICE. The femtoscopic correlations result from strong final-state interactions, and are fit with a parametrization based on a model by Lednicky and Lyuboshitz. This allows us to both characterize the emission source and measure the scattering parameters for the particle pairs. We observe a large difference in the ΛK^+ and ΛK^- correlations in pairs with low relative momenta. This might suggest an effect arising from different quark-antiquark interactions between the pairs ($s\bar{s}$ in ΛK^+ and $u\bar{u}$ in ΛK^-), or from different net strangeness for each system.

1 Introduction

This is where the introduction goes.

2 Data Analysis

This is where the data analysis section goes.

2.1 V0 selection

This is how we select V0s.

2.1.1 Λ selection

This is how we select Λ candidates.

2.1.2 K_S^0 selection

This is how we select K_S^0 candidates.

2.2 K^\pm selection

This is how we select K^{ch} or K^\pm candidates.

3 Construction of correlation functions and fitting

This is how we do it.

3.1 Fit Function

Ya boys Lednicky and Lyuboshitz!

3.2 Systematic uncertainties

This is the worst.

4 Results

Hooray, finally some results!

5 Summary

We did physics, and we found physics.

Acknowledgements

A The ALICE Collaboration