

1 Introduction

NOTE: An updated version of this analysis note should be uploaded before 9 December 2016. Amongst other additions, this new version will include an estimate for my systematic errors both in the correlation function data points, and in the extracted fit parameters.

We present results from a femtoscopic analysis of Lambda-Kaon correlations in Pb-Pb collisions at $\sqrt{s_{NN}} = 2.76$ TeV by the ALICE experiment at the LHC. All pair combinations of Λ and $\bar{\Lambda}$ with K^+ , K^- and K_S^0 are analyzed. The femtoscopic correlations are the result of strong final-state interactions, and are fit with a parametrization based on a model by R. Lednicky and V. L. 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 Λ - K^+ ($\bar{\Lambda}$ - K^-) and Λ - K^- ($\bar{\Lambda}$ - K^+) correlations in pairs with low relative momenta ($k^* \lesssim 100$ MeV). Additionally, the average of the Λ - K^+ ($\bar{\Lambda}$ - K^-) and Λ - K^- ($\bar{\Lambda}$ - K^+) correlation functions is consistent with our Λ - K_S^0 ($\bar{\Lambda}$ - K_S^0) measurement. The results suggest an effect arising from different quark-antiquark interactions in the pairs, i.e. $s\bar{s}$ in Λ - K^+ ($\bar{\Lambda}$ - K^-) and $u\bar{u}$ in Λ - K^- ($\bar{\Lambda}$ - K^+). To gain further insight into this hypothesis, we currently are conducting a Ξ -K femtoscopic analysis.