Minutes from the PANDA Hyperon meeting
2014-11-28

Participants:

André Goerres
Elisabetta Prencipe
Felice Iazzi
Albrecht Gillitzer
Dariusch Deermann
Walter Ikegami Andersson
Alicia Sanchez Lorente
Karin Schönning (chair)

1. Round-the-table presentation of participants

2. The collaboration meeting in Jülich: There will be a hyperon session between 11.00 and 12.30 on Tuesday. There will be talks by

1. Michael Papenbrock (Uppsala) on foreseen improvement on the pattern recognition
2. Dariusch Deermann (Jülich) on Λ_c Λ_{cbar} reconstruction
3. Albrecht Gillitzer (Jülich) on baryon spectroscopy with PANDA
4. Alicia Sanchez Lorente (Mainz) on the analysis of Λ Λ_{bar} production in nuclei.

3. Talk by Dariusch Deerman on Λ_c Λ_{cbar} reconstruction, for the case when Λ_c and Λ_{cbar} decay into $\Lambda\pi$. Simulations have been performed at 15 GeV/c using an isotropic generator. It was checked that the generator produces events with the expected properties concerning e.g. lifetime of produced Λ_c and Λ. Most tracks have a lab angle of < 20 degrees which makes the Forward Tracker important. Dariusch is working on a piece of code that can fit two particles to a common point of closest approach, even if one of the particles is neutral. This could later be very useful also for other hyperon channels. So far, "realistic" pattern recognition has been used for reconstruction of tracks in the target spectrometer. It was suggested that the study should be repeated with ideal pattern recognition since the present realistic pattern recognition code does not yet handle Λ's and other strange hyperons with very displaced decay vertices. The total reconstruction efficiency of Λ_c Λ_{cbar} is only about 1% but the efficiency loss is likely completely dominated by the shortcomings of the present pattern recognition. At the collaboration meeting, there will be an update of this talk. The slides of the talk can be found here:

https://panda-wiki.gsi.de/foswiki/pub/Physics/Baryons/WebHome/dariusch_Lc_aLC_reco.pdf