Minutes from the Hyperon Meeting, February 2nd, 2015

Participants: Albrecht Gillitzer (Jülich), Walter Ikegami Andersson (Uppsala), Paola Gianotti (Frascati), Tord Johansson (Uppsala), André Goerres (Jülich), Jacek Biernat (Cracow), Felice Iazzi (Torino), Elisabetta Prencipe (Jülich), Alicia Sanchez Lorente (Mainz), Karin Schönning (Uppsala, chair)

1. Round-the-table presentation/status report:

Walter: Ph.D. Student in Uppsala, was recently in Jülich together with Michael Papenbrock to discuss pattern recognition issues. Walter will work with the tracking code and pattern recognition and incorporate the skewed straw tubes.

Albrecht: Convener of baryon spectroscopy in PANDA. Was running simulations on $\Xi\bar{\Xi}$bar production before Christmas (see report at the December CM). In the beginning of this year he has produced a lot of MC data on Λ Λbar with box generator, which he will analyse soon.

Paola: as the physics coordinator of PANDA she follows the work of all physics subgroups.

Tord: initiated the hyperon-antihyperon programme in PANDA.

Jacek Biernat: post doc in Cracow. Is working on FTS benchmark simulation studies of Λ and $\Lambda(1520)$ production. For details, see his talk.

Felice: Interested in Λ Λbar production because of its application to the double hypernuclei programme.

André: Ph. D. student in Jülich, will probably make a presentation in the hyperon session of the next collaboration meeting.

2. Talk by Jacek Biernat

Simulations of Λ Λbar and $\Lambda(1520)$ Λbar(1520) were done at 4 GeV, using the Oct2014 release of Pandaroot and real pattern recognition for the central detector.

In the case of $\Lambda(1520)$, the Dalitz decay $\Lambda(1520) \rightarrow \Lambda$ e^+e^- was studied and that is the first presented study of a hyperon Dalitz decay in PANDA (to my knowledge).

Details can be found here:

https://panda-wiki.gsi.de/foswiki/pub/Physics/Baryons/WebHome/Lambda_1520_study.pdf

It was discussed whether ideal or real pattern recognition should be used for this kind of study. Standard Pandaroot macros use real pattern recognition in the central detector and ideal in the Forward part, whereas the macro recoideal_complete.C uses ideal for both forward and central part. The real pattern recognition code is however not yet suitable for hyperons since it assumes production in the IP. Work is ongoing and tests are needed but it until the present code is fully tested there is a chance/risk that the uncertainty in the results is dominated by the uncertainty in the pattern recognition.

Therefore, more tests comparing real and ideal pattern recognition for hyperons are welcome!

Jacek has beein running $\Lambda\Lambda$bar simulations at 4 GeV/c and a solenoid field of 2 Tesla and 1 Tesla.

3. The hyperon session at the next collaboration meeting in Giessen

Foreseen talks by Albrecht, André and Jacek and possibly a status report by Michael or Karin.

4. Next SeeVogh meeting

Will be the some time between February 25rd and February 27th. The standard meeting time will be abandoned this time since there is a collision with another meeting.