

Minutes Phys/PubCom, 10 March 2017, PANDA Collaboration meeting GSI

Presence: Kai-Thomas Brinkmann, Albrecht Gillitzer, Klaus Goetzen (rep. Frank Nerling), Ralf Kliemt, Johan Messchendorp, Marc Pelizaeus (remote), Lars Schmitt, Karin Schoenning, Tobias Stockmanns

Excused: Alaa Dbeyssi, Frank Nerling, Bernd Krusche, Klaus Peters

General items

A brief overview was given on the outcome of the retreat days and recent collaboration board decisions with respect to physics aspects. The CB decisions include 1) analysis teaching hubs and Theory PhD prize. For the composition of the TAG, the policy is to represent all physics subgroups. Moreover, goals have been set for a staged physics book and the urgency to publish individual analysis papers. Phase-0 will not be part of the physics book. Finally, during the retreat days, a discussion arose about ComPWA versus PAWIAN. The policy is to use both packages with a timely roadmap ahead. It was noted that it would be impossible to integrate both frameworks into one because of their design. The PhysCom encourages the usage of a variety of PWA if it serves our physics goals.

Status ongoing analysis and milestones

The various subgroups presented the ongoing activities. Most of the analysis activities are focused towards the phase-one feasibility studies for PANDA. Concerning the hyperon dynamics activities, progress is ongoing in the lambda and cascade production channels. In the recent months, priority was put to event and track building aspects which are now into shape. The aim is to provide analysis notes in spring this year. For the cascade spectroscopy aspects, activities are going on, primarily in Juelich. It is at present difficult to plan this work and set clear milestones. For the “nuclear” program, the delta-delta component in the deuteron is unique for PANDA. Manpower/priority in this direction is very limited, though. Work has started for the color transparency studies (group in India). For the charmonium-like aspects, a few presentations were given during this CM on $X \rightarrow Z\pi$ work (Juelich). The work is part of PhD dissertation which has to finish soon with the goal to be presented in a conference in September. Moreover, work has been presented by IHEP, Protvino on $X(3872)$ scan, primarily about modeling the lineshape. The status of high-spin $3D_2$ state will be presented soon in PWG. For the light-meson/glueball activities, Ulrich Wiedner indicated during the CB that a person can take up the phi-phi glueball search work. Marc will contact Ulrich about the details. In addition, recent discussions have been started between STAR and PANDA about common projects connected to the central production (double Pomeron exchange) processes in glueball searches. Alaa Dbeyssi has provided the physics coordinator with a brief status of the EMP activities. Concerning the phase-one ambitions: 1) the EMFF in the unphysical regime has been picked up by Mainz/Orsay; 2) recent results were obtained for the EMFF studies in the di-muon final-state; 3) the GDA studies in gamma π^0 final-state remains “unsubscribed”.

MC campaign & central production

For the MC campaign, a list of requested background channels were made to allow for a central production. A preliminary list is available at

https://docs.google.com/spreadsheets/d/1x_QaM0f9eUSp622i0BaHCR4PNGBRpe3pzZk8Mt8Orcw/edit#gid=0

It has been urged to complete this list. Paul Buehler has indicated to coordinate the data production.

Theory Advisory Group

A preliminary list was presented of available members from the existing TAG together with a list of proposed new TAG members. Moreover, the cross correlations between the expertise of the TAG members and the PWG were indicated. In general, the coverage looks very reasonable with the present list. Since there is no limit on the number of TAG members, it has been proposed to consider all proposed names, contact them accordingly, and propose the final list to the CB. In support of the EMFF activities, Alaa proposed two names. He will be asked to make a priority among the two persons. Similar for a proposal made by Egle via the CB.

PubCom Matters

Since there was no quorum in the CB to approve addendum 9, the formal decision has been moved to the next CB meeting. The new publication rule will, however, be applied. Moreover, a document describing the Practical Guidelines for Publications and Conference Contributions will be produced (based on original publication rules) and placed on accessible webpage. This will be taken up by the physics coordinator.

A.O.B.

Lars brought up the question on how to react on physics-driven versus detection-driven research, since Paolo Giubellino pushes the FAIR experiments to define their setups. Within PANDA, the discussion is very much oriented towards the forward tracking part, e.g. GEM and forward tracking stations. From the PANDA PhysCom perspectives it is clear that without a reasonable forward tracking stations, a huge part of the highlights of PANDA for phase-one will have to be moved to a later phase, which is highly undesirable if one aims to make a large “day-one” physics impact. Another item that was brought up in this context is on the needed precision of the MVD. It is not clear yet what the sensitivity would be.

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