Minutes of the 12th Meeting of the
COSY Beamtime Advisory Committee (CBAC)

October 8 and 9, 2020
Location: GSI, Planckstraße 1, KBW-1.017, 64291 Darmstadt, Germany

Participants:

CBAC members:

Kurt Aulenbacher	Univ. Mainz, DE
Oliver Kester	TRIUMF, CA
Thomas Stöhlker	GSI, HI Jena, DE (digital)
Christian Schmidt	GSI, DE
Marc Weber	KIT, DE

CBAC Scientific Secretary:
Frank Goldenbaum (IKP-1)

IKP:
Ulf-G. Meißner (IKP-3/IAS-4 Director) (excused)
Dieter Prasuhn (IKP-4)
Ralf Gebel (IKP-4 Acting and Managing Director)
James Ritman (IKP-1 Director, Scientific Coordinator COSY)
Hans Ströher (IKP-2 Director, IKP)

Chairman of the Board of Directors FZJ: Wolfgang Marquardt (digital)
Scientific Managing Director GSI: Paolo Giubellino

1. General remarks

The 12th CBAC session took place on October 8 – 9, 2020 at the GSI Helmholtzzentrum für Schwerionenforschung. The beamtime requests of the individual groups were presented on Thursday in the Open Session of CBAC#12. For the programme and the list of applications see the Addendum.

Closed sessions of the CBAC members were held on Thursday morning 9:00-9:30, on Thursday evening 17:55 – 19:30 and on Friday morning until 12:00.

The closed session on Thursday morning was opened by Wolfgang Marquardt welcoming the participants (see list above). CBAC was informed about the status of TransFAIR process. The implementation concept made significant progress and was approved by the advisory boards of both FZJ and GSI, and by the Helmholtz president. The concept will be detailed in form of a legal contract soon. COSY will be operated as a user facility until the end of 2024. This will clearly affect the priorities for operation in the coming years. It remains important to use the valuable but limited resources wisely. The focus must be on maximum science output, on proposals that rely on features unique to COSY and which do not depend on COSY operation beyond the aforementioned end date.

The CBAC chair, Marc Weber, thanks Wolfgang Marquardt and Paolo Giubellino for attending the session.

There are a large number of strong beamtime requests for COSY and the cyclotron. CBAC is charged to prioritize requests for the period of November 2020 through beginning of May 2021, corresponding to roughly 13 weeks of beam, plus machine development. The assignment of CBAC members to the proposals was confirmed.

Paolo Giubellino started the open session with a brief welcome of the participants. He acknowledges that choosing GSI as the venue of the meeting is an important symbolic step, anticipating the merger of IKP and COSY with GSI in 2021. He thanks the committee for their commitment.

Vsevolod Kamerdzhiev then gave a comprehensive overview of the COSY facility and its unique features to introduce COSY to the wider audience at GSI. The sources, beamlines, experimental areas are all introduced. Vsevolod also covered current activities including commissioning new hardware, improving diagnostics and automatization based on EPICS and reviewed the requests granted by CBAC#11. The vast majority of the request was carried out successfully, but the CBM/HADES and the PANDA cluster jet campaigns had to be cancelled due to COVID-19 restrictions.

Thirteen proposals were submitted to CBAC#12, asking in total for more than 22 weeks of beamtime, excluding machine development (MD). This represents a significant oversubscription of almost a factor two. An overview of all the applications and the agenda of the CBAC#12 meeting are given in the Addendum. The electronic versions of all proposals and reports as well as the pdf files of all contributions presented in the open session are located on the web page http://www.ikp.fz-juelich.de/CBAC/documents/cbac12.html .

2. Summary of the discussion and recommendations

Below we first comment on the ranking procedure, then summarize the recommendations of CBAC, and finally conclude with a detailed report on each proposal.

2a) Procedure

The rating system applied in the past to rank the proposals is felt to be effective and adequate and will be continued. It is summarized below for completeness.

The requests are rated A (highest rank), B, and C (lowest rank) within the following three categories:

(i) **Feasibility** Here the committee judges the feasibility of the proposed test or measurement based on its expert knowledge and external input or advice. Other assessments from, e.g., a PoF review or accepted proposals may enter. Also, boundary conditions imposed by the facility have to be considered.

(ii) **Readiness** The committee assesses the possibility that critical elements or components required for the test are not available in time. It should be noted that CBAC as an external group cannot make a complete assessment of all possible delays. The proponents are asked to comment in detail on the readiness of their proposals.

(iii) **Importance/Urgency** The relevance to PoF and IKP science is an important criterion as is the emerging long-term strategy beyond PoF-III and, for instance, the strategic project HBS. External users with exciting scientific projects are encouraged to use COSY when compatible with other constraints but external requests may be ranked lower in importance. Importance in many cases also has the connotation of urgency and may consider the overall schedule the respective projects are embedded in.

The recommendations consider the written requests, the oral presentations, and the related questions and answers during the open CBAC session. Following the open session, a detailed comparative discussion takes place in the closed session.

2b) Summary of the Recommendations

The projects presented in the open session on Thursday (see Sec.1 and the addendum) and the recommendations of CBAC are listed in Table 1. Four talks were status reports. An additional status report was delivered in writing. The other talks related to new proposals. As always, an important boundary condition is given by the allocated 5000 hours of beamtime per year and the six weeks of

maintenance required by COSY mid-year. For the next assignment period, approximately 13 weeks of beamtime will be available for users.

CBAC is again acting as an advisory body for requests of support to international users through the EU STRONG-2020 hadron community initiative.

Table 1: *Summary of requests (for details see table in the addendum), ratings and recommendations of CBAC#12.*

Experiment	Recommendation in user beamtime/ likely schedule	Feasibility	Readiness	Importance/ Urgency
D004.9 HADES P1/P2 CBM P3	1 week Report in CBAC#13	A A	A C	A/A A/B
D005.4 KOALA	1 week	A	A	A/A
D009.5 PANDA cluster jet target	1 week	A	A	A/B
D011.3 PANDA lumin. detector	1 week Report at CBAC#13	A	B	A/A
D013.1 Ay of elastic pp scattering	1 day	A	A	A/A
D014 Hades inner TOF	1 day	A	A	B/A
E005.7 JEDI deuteron EDM	5 weeks	A	A	A/A
E002.8 JEDI polarization	Report at CBAC#13	A	A	B/B
E006.4 PAX/Snake	Report at CBAC#13	A	B	A/B
A019 GaIn, Li target, n-flux	1 week (protons?) then present to CBAC#13	A	A-B	A/B
A020 Stable quadrupole config	3 days	A	A	A/A
A002.7 COSY beam cooling	1 week (+ overlap with cluster target)	A	A	A/B
A014.3 Orbit-feedback/BPM	1 week	A	A	A/A

2c) Short reports and recommendations on individual proposals

<u>Proposal D004.9</u> **CBM-HADES**

The CBM-HADES beamtime granted by CBAC#11 could not be realized due to COVID-19 travel restrictions. The team is asking for another opportunity to carry out the characterization of the mini drift chamber MCD (request P1) together with the testing of an ultrafast silicon beam telescope (request P2). CBAC confirms the relevance, importance, urgency and readiness of the MDC FEE upgrade project, which will enable running HADES at even higher beam intensities at FAIR phase 0 and phase 1. One week, instead of the requested 2 weeks, is estimated to be sufficient for this purpose. It is very worthwhile and efficient to combine this test with the latest ultrafast sensor beam telescope as proposed by the team.

Rating of P1/P2: Feasibility A, Readiness A, Importance/Urgency A/A
Recommendation: 1 week

Request P3 by CBM relates to the CBM MUCH subdetector. Two large-area GEM detectors shall be tested for the first time with their dedicated electronics to investigate operation stability, single-particle tracking efficiency and uniformity of the detector response. This request is very important for CBM and COSY is an ideal environment for the test. Since both the GEM chamber and the FEB are being fabricated, CBAC suggest presenting the readiness of these components to CBAC#13.

Rating of P3: Feasibility A, Readiness C, Importance/Urgency A/B
Recommendation: Report to CBAC#13

Proposal D005.4 **KOALA**

Koala intends to experimentally verify the PANDA luminosity detection concept with the recoil detector and the small angle forward scattering detector which in the final PANDA setup on HESR will be done with the "luminosity detector". To this end the existing recoil detector has been equipped with a forward detector arm comprising of four scintillator paddles arranged in vacuum around the forward beam. With the availability of the forward detector together with the recoil detector, the principle operation for luminosity measurements could now be demonstrated. However, the past beamtime revealed that there is a principle sensitivity to beam misalignments in the setup which introduce unforeseen MIP-type background and consequently systematic uncertainties in inferring the luminosity at very low transverse momenta, the most sensitive region of interest. The setup shows unexpected differences for different beam momenta.
It is planned to follow up on these discrepancies through an extra beamtime with a stochastically cooled beam. In preparation the scintillator detectors of the forward detector will be optimized in shape for higher light yield as well as in geometric acceptance for very small angle scattering.
The team is prepared and has a well-defined experimental goal for December 2020. Further, this issue might uncover unforeseen conceptual problems with the luminosity detector for PANDA. Thus, the committee considers the beam-time request as urgent, to address the need for PANDA to clarify this issue and potentially take mitigation actions.

Rating: Feasibility A, Readiness A, Importance/Urgency A/A
Recommendation: 1 week

Proposal D009.5 **PANDA Cluster jet target**

The cluster target is a core element of PANDA. The device comprises complicated hardware that has been thoroughly and extensively tested in the home lab of the applicant. It is now equipped with an optical laser and camera system to make the beam visible and allow for better beam manipulation. The prudent experimental team has prepared the cluster target in a way that left no doubt about its readiness. In the 2018 beamtimes, the complex infrastructure could be shown to operate absolutely to specifications. The cluster jet target could be fully commissioned and surpassed standard technology by at least an order of magnitude in target density. It is particularly promising that successive beamtimes on beam cooling, using barrier bucket as well as electron beam cooling techniques, could successfully be realized with the cluster jet target in operation. This proved the feasibility of stable beam operation even with such a high-density target, so that optimization of the target towards even higher density appears desirable.

The intensive work corroborating various other beam activities as well as dedicated cluster jet target beamtimes has proven how well the target operates together with the barrier bucket and the various beam cooling options. The use of an independent Schottky pickup will allow the team to measure beam properties independently during closed-loop stochastic cooling operation. The big goal of reaching the projected PANDA design target density at 2×10^{15} protons/cm^2 and thereby proving its feasibility is yet to be achieved, raising the operation density by a factor of three. This is indeed a viable goal that helps the community. It is paired with the aim to realize an operational know-how transfer to the next generation of PhD students. Due to COVID19 the beamtime granted in CBAC#11 had to be cancelled.

In the meantime, new promising ideas have come up, e.g., the gas background measurement and separation from target effects by guiding the beam around the cluster beam. This can only be carried out at COSY and is not feasible at HESR where the target is to operate.

The cluster target team, typically, had a week of beamtime every half year and - in interplay with cooling beamtimes - enormously profited from this activity. A week, e.g. in late spring 2021, should be granted.

Rating:	Feasibility A, Readiness A, Importance/Urgency A/B
Recommendation:	1 week

Proposal D011.3 **PANDA luminosity detector**

For refinement of the PANDA luminosity determination, silicon sensors rather than scintillators shall measure elastic low-angle scattering with very high resolution and suppress background reactions. For optimum resolution, a thinned HVMAPS forward detector shall thus be placed in the vacuum tube, 11 m downstream of PANDA. HVMAPS technology is well-established and mature, although it is not yet being used in experiment.

In a first beamtime in March 2019, MuPix8 sensors developed for the Mu3e experiment and designed by Ivan Peric at KIT were to be tested in a hadron beam for track resolution and efficiency. These tests with a new Kintex 7 based DAQ had been interrupted by the COVID-19 lockdown. Further the new HVMAPS MuPix10 sensors are now available and need to be tested in a full-sized detector setup comprising 16 detector chips. The evaluation of the final size prototype detector is a prerequisite for final device submission, even though a bug in the interface has already triggered the submission of an updated MuPix-11 version of the chip.

CBAC grants one initial week of beamtime, preferably in late spring 2021 to allow for full readiness.

Rating:	Feasibility A, Readiness B, Importance A/A
Recommendation:	1 week of beamtime. Report at CBAC#13

Proposal D013.1 **Ay of elastic pp scattering**

In preparation for the CERN approved experiment P349 at the PS T11 beam, 1 day of COSY beamtime is requested. The detectors arrangement and components at COSY and CERN will be almost identical. Next to verifying the basic functionality, efficiency and high rate capability of the detector, the analyzing power A_Y of elastic pp-scattering in the Coulomb-nuclear interference region (momentum range of a few GeV/c) shall be measured. This is a necessary requirement for determining the beam polarization for the CERN experiment.

The request is very good value for the small amount of beamtime requested. The team is ready to start. COSY is a most convenient and unique facility for the measurement.

Ratings:	Feasibility A, Readiness A, Importance/Urgency A/A
Recommendation:	*1 day*

Proposal D014 **Hades inner TOF**

To improve the triggering capabilities of HADES, a scintillator TOF system read out by SiPMs has been designed. The TOF will eventually be mounted on the HADES muon detectors MDC before the magnet. A small first prototype of a single 6x6 mm^2 SiPM was successfully tested with a source. While there is

broad agreement with the GEANT simulations, some discrepancies remain. Two full size prototypes (at least) with twelve 3x3 mm^2 SiPMs shall be tested at very high rates.

The request is very reasonable and will provide valuable information, much superior to source tests. It is excellent value for the small amount of beamtime required.

Ratings: Feasibility A, Readiness A, Importance/Urgency B/A
Recommendation: 1 day

Proposal E005.7 **JEDI deuteron EDM**

A first deuteron EDM precursor run using the RF-Wien filter concept has taken place. As expected, setting up COSY for this extremely demanding experiment proved time consuming, but decisive. Finally, six days of beamtime with good machine conditions were achieved. The goal of the experiment was to obtain a control of systematic errors at the best possible level. To this goal, the parametric resonance strength is measured under excitation of this resonance by the RF-Wien filter and/or a solenoid and compared with expectations from models which take into account machine imperfections which lead to spurious signals.

More and better data can be expected based on now available improved components. For instance, it has been demonstrated that one is able to perform multi-bunch operation during which one of the bunches is not excited. This is possible because a fast transistor allows to switch off the RF-system during passage of the "pilot" bunch. The absence of vertical spin excitation for the pilot was demonstrated by the JEPOL polarimeter.

The proponents have pointed out that this improvement, together with the ongoing optimization of other accelerator parameters (e.g. spin tune feedback, fast tune and chromaticity measurement and others) will allow them to obtain not only more, but also better data which will probably also reduce the remaining inconsistencies after the first run. CBAC congratulates the proponents to their progress and strongly supports making use of these world-wide unique possibilities. Though the experiment would take a considerable amount of the available runtime during the upcoming period, CBAC strongly endorses this proposal in order to publish a first result for the limit on the deuteron EDM within the next one or two years. The requested beamtime for further JEPOL improvement can be incorporated in the run.

Ratings: Feasibility A, Readiness A, Importance/Urgency A/A
Recommendation: 5 weeks

Proposal E002.8 **JEDI polarimeter**

This complex setup for polarimetry of the JEDI polarized beam serves to provide the key observable for the full JEDI EDM experimental endeavor. For this reason, it is intricately linked to JEDI as well. It could lately beautifully be employed to verify the feasibility of a "pilot bunch comagnetometer" for EDM measurements with the Wien filter. The system has recently undergone several major improvements in LYSO SiPM detector arrangement as well as in the scattering target assembly. A new target manipulating setup has been designed and installed that allows operators to approach and touch the full beam from all four sides for a polarization measurement. Further the tracking and Delta E measurement system using two external layers of plastic scintillators has been finalized. In addition, the polarimeter system has newly been fully integrated into the COSY controls.

Thorough verification of its operation in this advanced version is now targeted for the polarimeter in the next beamtime. The team is ready, and the endeavor is well feasible. In view of the approaching key stage of the JEDI program there is an urgency to allow for a final characterization and experimental employment of the polarimeter as well. The requested two weeks of beamtime with an additional week

of machine development is fully recognized. Merging this beamtime, however, with one larger, joint JEDI Wien-Filter or general JEDI beamtime would allow more efficient use of the limited COSY time.

Rating: Feasibility A, Readiness A, Importance/Urgency B/B
Recommendation: Report at CBAC#13

Status report E009 **JEDI coherence time**

The spectacular spin coherence times (SCTs) that were demonstrated with deuterons cannot easily be reproduced for the proton due to very close spacing of resonances. It is vital to minimize energy spread related effects by using sextupoles and bunched beams together with a minimized emittance by beam cooling. However, the nonlinear beam dynamics created by some of these measures render modelling an experiment for the proton difficult. Therefore, no beamtime is requested for a proton experiment at the moment. CBAC acknowledges the work that has been done on the subject and encourages the group to continue their efforts which are of extreme importance for the design of dedicated EDM rings.

Proposal E006.4 **PAX/Snake**

The Siberian snake is needed to stabilize the spin direction at the opposite side of a ring where an experiment like PAX would be located. Ramping the snakes field causes tune shifts and phase space coupling as unwanted side effects. The ramp speed had to be reduced to avoid quench-effects which made experiments in a recent run tedious. Nevertheless, the proponents have reported on the observation of mentioned tune shifts and that they were able to compensate them to a certain extent by tune jumps with quadrupoles.

The operation of the snake is a vital ingredient for a future antiproton polarizer at FAIR. Given the fact that COSY offers unique possibilities to collect experience with the operation of such a device, CBAC is convinced that this experiment must be done during the remaining life of COSY.

However, our impression is that the tune jump method needs to be further optimized. CBAC therefore recommends deferring the beamtime until further progress in this respect can be reported.

Ratings: Feasibility A, Readiness B, Importance/Urgency A/B
Recommendation: Report at CBAC#13

Proposal A019 **Gallium indium and lithium neutron yield**

The goal of the proposal is to study the production rate and neutron flux of a Ga-In target bombarded by intense proton/deuteron beams for use as a powerful neutron source. GaIn is a liquid metal target with very convincing thermal and chemical properties (e.g. hazardless and liquid at room temperature) but its neutron yields are basically unknown. Therefore, it is planned to normalize the measured neutron flux to the one obtained from a Li target (the neutron double differential yield from Lithium at 40 MeV deuterons is well known). The specific motivation is closely related to the SARAF facility in Israel where soon Phase II will be available providing intense proton/deuteron beams with energies of up to 40 MeV and currents of up to 5 mA. In addition, one may note the overall relevance of this topic for accelerator-based neutron sources, e.g. HBS. It is proposed to perform the investigation for proton and deuteron beams at the four energies of 20, 30, 35, and 40 MeV and by using a GaIn und a Li target. CBAC endorse the proposed experiment as very relevant. However, although the realization of the setup appears to be straight forward, it might be hampered by possible travel issues related to the current COVID-19 crisis. Moreover, the committee suggest considering the use of additional germanium detectors for a more efficient data collection. CBAC recommends a beamtime of one week followed by a detailed report at the CBAC#13 meeting.

Ratings: Feasibility A, Readiness A-B, Importance/Urgency A/B
Recommendation: 1 week, then report to CBAC#13

Proposal A020 **Stable Quadrupole Configurations**

The investigation is focussed on the stability of the beam spot size upon slight variations of the quadrupole tune. The benchmarking is planned in the BIG Karl beam line, using a wire chamber to observe the spot size, while small random changes of the quadrupole strengths are imposed. The spot size should not vary beyond a certain threshold, which is not clearly defined in the proposal.

However, the simulation demonstrate that this generic method works well and can be applied to any beamline. It would accelerate the complicate tuning of beam lines like the GSI HEST and many kilometers of FAIR beam transport line in the future. CBAC does endorse this valuable Ph.D. thesis project with the moderate beamtime request, which can be combined with other experiments using BIG Karl.

Ratings: Feasibility A, Readiness A, Importance/Urgency A/A
Recommendation: 3 days

Proposal A002.7 **High energy electron cooling**

Very encouraging results were obtained with the unique 2 MeV cooler at COSY demonstrating effective cooling of protons between 0.2 and 2.6 GeV. In beam studies an unexpected shape of the transverse energy distribution within the electron beam, probed by a pencil proton beam, was observed and points to an additional transverse heating term. The limited availability of personnel (corona restrictions) and technical difficulties with hardware for HV operation time led to very limited time for the experiment, therefore the measurement program could not be completed.

The team wants to explain the unexpected behaviour of the Schottky signals of the cooled proton beam during complimentary cooling with electrons as well. This effect was successfully reproduced in the last beamtime and it has been proven that the beam is the origin of the coherent signal by two additional systems operating independently, it is not an artefact.

The two weeks beamtime request is well justified to investigate the potential heating mechanism. Some fraction of the beamtime will be required for the cluster target run anyhow. The investigation of energy spread blow-up effect during simultaneous application of electron and transverse stochastic cooling requires sufficient beamtime. However, CBAC does not see the urgency of the investigation of the "Schottky artefact". However, CBAC proposes to have one week overlap with the cluster target run.

Ratings: Feasibility A, Readiness A, Importance/Urgency A/B
Recommendation: 1 week + 1 week together with PANDA cluster target run

Proposal A014.3 **COSY Orbit Control Studies**

In the orbit feedback studies the team could achieve closed orbit correction at injection energy. The proposed calibration method of steerer magnets with one-out-of-four orbit bump is robust and can be expanded to other steerer magnets as well. The matching of measured and modeled ORMs has been improved considerably.

One of the systematic limitations of the methods is the singular momentum of 0.97 GeV/c of accelerated deuterons used so far. To prepare the JEDI Wien filter experiment, several energies are desirable at which the study has to be repeated. To reduce magnetic rigidity systematics runs at 0.6 GeV/c, 2.2 GeV/c and 3.0 GeV/c are planned. As the model requires a large number of parameters to be varied and computed, a machine learning (ML)-assisted approach is considered.

Ratings: Feasibility A, Readiness A, Importance/Urgency A/A
Recommendation: 1 week

Status report A016 **JuSPARC**

A status report on the calibration of a polarimeter for laser-driven polarized proton beams was presented. In general, the generation of polarized, energic proton beams (up to GeV) is an important goal of the Helmholtz distributed test facility, the so-called ATHENA project. For the purpose of polarization diagnostics, a dedicated polarimeter based on solid-state nuclear tracking has been developed and tested during a beamtime in February 2020 at JULIC with polarized proton beams at 45 MeV. Additional tests were also performed. The data analysis is in progress whereby particular emphasis is given to a detailed GEANT4 simulation and to the investigation of background events related to proton-induced neutrons. The new polarimeter is planned to be used in an experiment at the PHELIX laser facility at GSI, where the generation of polarized $^{3}He^{2+}$ by intense laser pulses will be studied. CBAC appreciates the well-prepared status report and looks forward to the final results of the data analysis as well as to the first results from the PHELIX experiment.

Status report A010/A013 **HBS**

A report on future plans for the JULIC Neutron Platform was given. More specifically, JULIC was discussed in terms of R&D for accelerator and neutron target technology for compact scalable accelerator-based neutron sources (HBS, high-brilliant neutron sources) and it its application as a platform for first basic user experiments was proposed. CBAC appreciates the quality of the presentation and is aware of the high mid- and long-term strategic relevance of HBS for the Helmholtz Association and the European neutron science community. CBAC notes, however, that a judgement about JULIC goes beyond the remit of CBAC. JULIC itself is based on a mid- and even long-term commitment related to the operation of the proton facilities at Julich (for sure, extending beyond 2024) but also requires substantial human and financial resources. CBAC may advise the collaboration to get in contact with the management boards of FZJ and of GSI Darmstadt for a strategic discussion about the realization of the JULIC project.

3. Summary and Conclusions

We would like to thank all speakers and participants for an inspiring day of scientific presentations. Despite the COVID restrictions and the hybrid format of the meeting with many online presentations, communication between the committee and the experimental groups was excellent. CBAC would also like to warmly thank GSI for their hospitality and for hosting the meeting for the first time.

This year CBAC received thirteen requests for, in total, more than 22 weeks of user beamtime and complemented by several weeks of machine development. Several statements of interest beyond this scheduling period were already given. The thirteen requests relate to

- detector tests for FAIR (D004.9, D005.4, D009.5, D011.3, D013.1, D014),
- accelerator physics experiments, which are driven by either FAIR or EDM (A002.7, A014.3, A020),
- R&D for an accelerator-driven neutron source (A019) and
- to preparations for the determination of the EDM (E002.8, E005.7, E006.4).

As always, the detailed scheduling of the prioritized proposals is left to the local COSY coordination committee. Special attention should be given to the current COVID related travel constraints, in particular for non-local groups.

CBAC notes that a large number of staff critical for COSY operation are currently on temporary contracts. This issue needs to be addressed urgently by the management of FZJ and GSI, in order not to jeopardize safe and reliable COSY operation and to honor the PoF-IV commitments.

CBAC would also like to mention that the enthusiastic vision of implementing the JULIC neutron platform on the COSY facility is not compatible with the anticipated end of operations by the end of 2024. A clarification of the center policy would be helpful.

Finally, CBAC congratulates the JEDI collaboration for their steady progress which is culminating next year in a rather long deuteron EDM measurement. CBAC is aware that this presents a significant fraction of the overall beamtime in this scheduling period.

Next CBAC session

The CBAC#13 meeting is scheduled to take place on May 6th and 7th 2021 at FZJ.

Marc Weber (CBAC Chair)

AGENDA

preamble: due to Covid-19 restrictions, the CBAC#12 is held as a hybrid meeting, i.e. the committee member meet in person at GSI-Darmstadt, Experiment speakers contribute via TelCo
(coordinates of the **Open Session** see page 3 of this agenda)

Thursday, October 8th, 2020

08:30	(Bus) transfer Achat-Hotel Egelsbach to GSI	
09:00 – 09:30	**Closed session**	(GSI, KBW-1.017)
	W. Marquardt (VS-FZJ)	Welcome
	M. Weber (chair)	Organization, committee work
	Open session	(GSI, KBW-1.017 and TelCo)
09:30 – 09:40	P. Giubellino, J. Ritman	Welcome
09:40 – 10:00	V. Kamerdzhiev	Status of COSY (TelCo)

Proposals are scheduled for 15' presentation + 10' discussion (TelCo)

10:00 – 10:25	D004.9CBM	J. Heuser
10:25 – 10:50	D005.4KOALA	H.Xu
10:50 – 11:10	**Coffee**	
11:10 – 11:35	D009.5PANDA Clas.Jet Tg.	A. Khoukaz
11:35 – 12:00	D011.3Lumi-det.	M. Fritsch
12:00 – 12:25	D013.1Detectortest D013	D. Grzonka
12:25 – 12:50	D014 Hades inner_TOF	D. Grzonka
13:00 – 14:00	**Lunch Break**	
14:00 – 14:25	E005.7 JEDI Deuteron EDM	F. Rathmann
14:25 – 14:50	E002.8 JEDI-Polari.	I. Keshelashvili
14:50 – 15:05	E009(status) JEDI Proton SCT	A. Lehrach
15:05 – 15:30	E006.4 PAX/Snake	A. Pesce
15:30 – 15:45	**Coffee**	
15:45 – 16:10	A019 GaIn, Li target, n-flux	I. Eliyahu
16:10 – 16:35	A020 stable quad. config	D. Vilsmeier
16:35 – 17:00	A002.7 COSY e-cool	V. Kamerdzhiev
17:00 – 17:25	A014.3 Orbit-feedback/BMP	I. Bekman
17:25 – 17:40	A016(status) JuSparc	C. Zheng
17:40 – 17:55	A010/A013 HBS (update/status)	P. Zakalek
17:55 – 18:05	New diagnostic tools & syst@COSY	P.Niedermayer
18:15 – 19:30	Closed session (GSI, KBW-1.017)	
19:30 – 21:00	**Dinner** (GSI Cantine side-room)	
~21:00	(Bus) transfer GSI to Achat-Hotel Egelsbach	

AGENDA

Friday, October 9th, 2020

09:00 – 11:45	**CBAC closed session** (GSI, KBW-1.017) representatives of the experiments should be available on call for additional information or questions	
	Open session (GSI, KBW-1.017 and TelCo)	
11:45 – 12:15	Summary of CBAC Recommendations	M. Weber
12:30 – 14:00	**Lunch (for CBAC members) (at GSI) /End of meeting**	