

Minutes of the 65th Meeting of the PRC April 1-2, 2008, DESY Hamburg

PRC members present:

G. Anton (U Erlangen), P. Buchholz (U Siegen), U. Gensch (DESY), R.D. Heuer (DESY), W. Hollik (MPI Munich), Y.K. Kim (FNAL, Chair), J. Kühn (Karlsruhe), T. Lohse (HU Berlin, Co-Chair), R. Milner (MIT), E. Perez (CERN), G. Quast (Karlsruhe), N. Saito (Kyoto U), J. Timmermans (NIKHEF), A. Wagner (DESY), A. White (UTA)

F. Lehner (DESY, Scientific Secretary)

W. Hollik could attend the meeting only on 1 April, A. Wagner (DESY) could attend only on 2 April.

Non PRC members attending closed session items:

Representatives from the Experiments:

H1: C. Diaconu (Marseille/DESY), K. Lipka (DESY), D. Pitzl (DESY), A. Schöning (DESY), C. Vallee (Marseille)

ZEUS: T. Haas (DESY), I. Abt (MPI Munich)

HERMES: A. Fantoni (INFN-LNF), E. Kinney (U Colorado), N. Makins (U Illinois), S. Yashenko (U Erlangen)

POL2000: T. Behnke (DESY), N. Coppola (DESY), R. Fabbri (NIKHEF), B. Sobloher (Hamburg)

LHC: K. Borrás (DESY), W. Ehrenfeld (DESY), V. Gülzow (DESY), Y. Kemp (DESY), M. Medinnis (DESY), K. Mönig (DESY)

ALPS: K. Ehret (DESY), A. Lindner (DESY), E.-A. Knabbe (DESY), A. Ringwald (DESY), J. Redondo (DESY)

IceCube: S. Schlenstedt (DESY), C. Spiering (DESY)

ILC R&D:

LCTPC: T. Behnke (DESY), P. Colas (Saclay), T. Matsuda (KEK), R. Settles (MPI Munich)

SiLC: Aurore Savoy-Navarro (LPNHE), V. Saveliev (DESY/OSU)

External LCTPC-Referee: U. Koetz (DESY)

The PRC reviewed the following documents:

- Astroparticle Physics – Report to the 65. PRC, 1-2 April 2008, DESY Hamburg
- Status of the ALPS Experiment - Report to the 65. PRC, 1-2 April, 2008, DESY Hamburg
- SiLC Status Report to the 65. PRC, 1-2. April, 2008, DESY Hamburg
- TPC R&D for a Linear Collider Detector – Status Report from the LCTPC Collaboration to the 65. PRC, 1-2 April 2008, DESY Hamburg

All PRC Reports are available at the PRC web page <http://prc.desy.de>

Agenda

Open session: 1 April 2008, Main Auditorium

DESY – Overview and Vision	R.-D. Heuer (DESY)
H1	K. Lipka (DESY)
ZEUS	T. Schörner-Sadenius (U Hamburg)
HERMES	S. Yaschenko (U Erlangen)
ALPS	A. Lindner (DESY)
LHC Experiments	
ATLAS	W. Ehrenfeld (U Hamburg/DESY)
CMS	K. Borras (DESY)
LHC Computing : A National Analysis Facility	Y. Kemp (DESY)
Astroparticle Physics @ DESY	C. Spiering (DESY)
ILC Detector R&D:	
TPC	T. Matsuda (KEK)
SiLC	A. Savoy-Navarro (LPNHE)

Closed Sessions: April 1-2, 2008, Seminar room 1

Item 1: Approval of the minutes and matters arising from last meeting

Item 2: News from the Laboratory

Item 3: Review of LHC Experiments

3. 1. Review of ATLAS

3. 2. Review of CMS

3. 3. Review of Computing

Item 4: ILC Detector R&D

4. 1. Review of the LCTPC Collaboration

4. 2. Review of the SiLC Collaboration

Item 5: Review of HERA Experiments

5. 1. Review of H1

5. 2. Review of ZEUS

5. 3. Review of HERMES

5. 4. Review of POL2000

Item 6: Proposal of a Lepton-Nucleon Scattering Experiment at DORIS

Item 7: Review of ALPS

Item 8: Review of Astroparticle Physics

Item 9: AOB

Item 1: Approval of the minutes and matters arising from the last meeting

The minutes of the 64th DESY PRC meeting were accepted with minor changes. The PRC welcomed the new members E. Perez (CERN) and A. White (UTA). The PRC welcomed also F. Lehner (DESY) as new PRC Scientific Secretary.

Item 2: News from the Laboratory

The news from the laboratory was presented by Rolf Heuer. The Directorate consists of the Chair of the Boards of Directors, the Director in charge of High Energy Physics and Astroparticle Physics, the Director of the Accelerator Division, the Director in charge of Photon Science, and the Director of Administration. We expect the new Chair to take over from Albrecht Wagner by the end of this year or spring next year. The appointment of the Director in charge of High Energy Physics and Astroparticle Physics is expected this summer.

PETRA III made an enormous progress and the whole project is on time and on budget. Regarding XFEL, Russia officially committed to contribute 250M Euro and various in-kind contributions from other countries are expected. The project is in good shape technically, but political and administrative problems will likely cause a delay. Ground breaking is expected this fall at the earliest. FLASH made a new record, reaching 1 GeV. The beam availability of 97% provided a good demonstration of running a superconducting linac.

The Helmholtz Alliance “Physics at the Terascale” has started to work with a successful Kick-off meeting at Hamburg with about 300 participants. In the management, one of the Scientific Coordinators has changed. The first phase of recruitment of Fellows has been completed in the theory sector and is ongoing in the experimental sector. There has been a good progress in new appointments in the area of particle physics phenomenology, theoretical astroparticle physics, accelerator physics, and young investigator positions.

Although the DESY budget in particle physics and astroparticle physics for the current funding period is tight DESY can profit from additional funding opportunities in Germany and Europe. They include a BMBF fund for improving Germany’s visibility at CERN, and EU funds for superconducting cavity, detector, and accelerator R&D.

The second five-year cycle within the Helmholtz Association for the Program Oriented Funding covers the period between 2010 and 2014. The proposal for this cycle is due November 30, 2008. The proposal will be reviewed spring 2009 and decision will be made summer 2009.

Item 3: Review of LHC Experiments

All LHC components are installed and cooling down to an operation temperature of 2K is underway. The LHC schedule expects to close the beam pipes by mid June and start then with first injections. The last missing pieces of the detectors were lowered into the pits and installation of cabling and electronics is coming to an end.

3.1 Review of Atlas

K. Mönig reported in the closed session on the manpower status for ATLAS. The group has members from Hamburg and Zeuthen with many of them still active on HERA experiments and ILC. Close collaboration exist with IT-Departments in Hamburg and Zeuthen, University of Hamburg (Junior Professor J. Haller) and Humboldt University Berlin (Prof. H. Kolanowski, Prof. H. Lacker and Prof. T. Lohse). In addition, two Helmholtz Young Investigator groups (P. Bechtle and U. Husemann) exist. All together, the group consists of 28 physicists (staff plus fellows), most of them working part time for ATLAS. The tasks at ATLAS are usually common projects among DESY and the two university groups. K. Mönig presented the breakdown of manpower that is available for service tasks in Trigger (configuration & monitoring), MC interfaces, fast shower simulations, GRID computing, tau-reconstruction and ALFA, the absolute luminosity monitor for ATLAS.

E. Perez presented the ATLAS referee’s report for J. Timmermans and herself. Since the last PRC meeting the group has grown again and is now joined by a new Young Investigator (U. Husemann). The work of the “extended DESY” group (DESY+U Hamburg + HU Berlin) on trigger configuration & monitoring has a very high visibility with co-convenors from U Hamburg. A new activity that will be started soon by the new Young Investigator is Pixel R&D for sLHC. Work on ALFA, the absolute luminosity monitor for ATLAS, with the aim to determine the luminosity with 1-2%

uncertainty, is progressing well. Moreover, the group had already significant contributions to physics activities. E. Perez concluded that the group has reached a critical mass allowing for major contributions to the experiment.

The PRC continued the discussion in the closed session.

3.2 Review of CMS

K. Borrás reported on the activities and manpower situation of the DESY CMS group. The group is involved in technical coordination, higher level trigger & data quality monitoring, CASTOR calorimeter, computing & software developments and physics studies with a total of 28 physicists.

E. Perez presented the referee report for J. Timmermans and herself. The CMS group has reached the critical mass for allowing major contributions with high visibility in CMS. The group is engaged in many activities mostly driven by the HERA experience of the people. Over the past month the group could focus more on consolidation rather than developing new activities. Overall, the contributions of the DESY group are highly visible within CMS and as such acknowledged by the CMS management.

The PRC continued the discussion in the closed session.

The PRC notes that both the ATLAS and CMS groups at DESY have reached the "critical mass" which allows for major contributions to each experiment. Important contributions to both experiments have already been acknowledged by the ATLAS and CMS managements. The ATLAS and CMS groups have a good and fruitful collaboration with local Universities in Hamburg and Berlin. The PRC congratulates the LHC groups at DESY and the laboratory management for these achievements. However, the PRC is concerned that with high M & O costs and a tight travel budget, the laboratory may not be able to support the necessary expertise on the CERN site during the commissioning phase of the experiments. We recommend that concerning the pre-sLHC effort, both experiments focus on their currently committed areas and do not expand these further.

3.3 Review of Computing/NAF

There was no contribution by NAF in the closed session.

The referee report was presented by J. Timmermans on behalf of E. Perez and himself. The National Analysis Facility for German LHC and ILC groups is considered as strategic part of the Helmholtz Alliance with the aim to provide best possible infrastructure and tools, join forces, and create synergies among German scientists. The planned size corresponds to about 1.5 average Tier-2 center. Key parts are already in place with first external users by mid-April.

The PRC continued the discussion in the closed session.

DESY has many excellent opportunities with the ATLAS and CMS experiments including involvement in physics analysis, high-level trigger and data-acquisition systems, software, commissioning and technical coordination, forward detectors and their physics, computing with a Tier-2 center, and the sLHC detector upgrades. DESY now has another opportunity, "National Analysis Facility" (NAF), as part of the strategic Helmholtz Alliance. The goal is to provide best possible infrastructure and tools to enhance analysis capabilities and to create synergies among German scientists at the LHC and ILC. Initially the facility will be used for the ATLAS and CMS scientists in the start-up phase. The PRC strongly supports the NAF as a powerful extension of early analysis capabilities for the German LHC and ILC community.

Item 4: Review of ILC R&D

4.1 Review of TPC

J. Timmermans reported briefly on the organization and manpower situation of the LCTPC collaboration. The collaboration has members from all three world regions. Recently, J. Timmermans was appointed as chairperson/spokesman of LCTPC succeeding R. Settles.

U. Koetz presented the PRC referee report of LCTPC. In 2007 an extensive review of LCTPC was carried out by the ILC tracking R&D review committee under the chair of Chris Damerell. U. Koetz suggested that PRC should discuss how the different reviews can be brought together. He further reported on the progress of the endplate design, with four available options: MWPC, GEMs, MicroMegs and CMOS pixel readout. Traditional MWPC however, are not favoured due to their limited space resolution. A concern is still ion feedback which will lead to sheets of ions under bad beam conditions drifting slowly to the cathode. This issue has to be settled and needs increased priority studies with small prototypes in high fields. The large prototype TPC with about 610 mm length and 720 mm diameter should demonstrate full tracking capability on a realistic large-scale prototype but experiences some delays. U. Koetz stated that the LCTPC has made good steps forward with convincing new results. The collaboration has grown worldwide. The main priority is now to get the large TPC prototype going. He also emphasized that there are more efforts necessary into simulations and correction tools.

The discussion was continued in the closed session.

The PRC congratulates the LC TPC collaboration for making a good step forward. The collaboration produced convincing new results and has grown worldwide. The PRC recommends the collaboration to get a large prototype detector going. There is still a lot to do to make it work and to learn about operations, calibrations, data corrections and field corrections. The PRC recommends that the TPC collaboration puts more effort into simulations and correction tools. These will allow the

collaboration to study effects of endplate thickness on calorimetry, to simulate various detector conditions, and to simulate physics performance for detector choices.

4.2 Review of SiLC

There was no contribution by the SiLC collaboration in the closed session.

A. White presented the referee report on behalf of J. Timmermans and himself. The SiLC R&D activities span essentially all aspects of silicon-based tracking for the ILC, apart from specific R&D for the vertex detectors. The SiLC collaboration is focused on R&D work on mechanics, electronics and sensors and can be considered as a horizontal collaboration whose R&D results can potentially affect the design of all ILC detectors with significant synergies to LHC R&D upgrade work. A. White summarized the progress of sensor development and tests with the R&D direction towards thinner and double-sided sensors manufactured from 8" wafers. Immediate goals in electronics development such as a first version of the 130nm CMOS digitizer chip directly bump-bonded to the silicon sensors were achieved. The SiLC collaboration has developed comprehensive test beam plans at various facilities in conjunction with other ILC R&D activities. As regards simulation work, SiLC is responsible for implementing silicon tracking elements in the ILD detector design for optimization studies and a large effort to develop fast and detailed simulation software has started. A. White finally concluded that the SiLC collaboration has made significant progress in many areas over the past year.

The PRC continued the discussion in the closed session.

SiLC continues to be a very useful collaboration for drawing together R&D interests for Si-tracking at the Linear Collider. The R&D results being obtained will provide essential information during the initial LOI phase currently being addressed by the various detector concept groups. The PRC congratulates the SiLC collaboration on the successful production and initial testing of new sensors from HPK, and applauds the activities to develop contacts with new vendors to be qualified as producers of new generations of sensors. The PRC recognizes the progress made towards a high degree of the front-end electronics integration and looks forward to results from the integrated systems from the upcoming test beam runs. The PRC recommends the SiLC collaboration to produce timely analysis and results from the DESY/CERN test beams in 2008 to feed into the preparation of LOIs.

Item 5: Review of HERA Experiments

5.1 Review of H1 Experiment

C. Vallee reported on behalf of the H1 Collaboration. The second full HERA II data reprocessing was performed within one month representing now the current best knowledge of all sub-detectors. A new re-processing is foreseen in autumn.

The MC production team was strengthened and the GRID production is now distributed on several major centres in Europe (DESY-UK-France-Russia...). C. Vallee emphasized that adequate GRID resources are granted up to now, but has to be followed closely with start of LHC.

C. Vallee showed very preliminary results of the high Q^2 data analysis on the longitudinal structure function F_L using the LAr calorimeter. The result will be released for the Moriond Conference. A recently released H1 and ZEUS combined QCD fit of parton density functions (pdf) was presented as well. He pointed out that the era of high precision pdfs at low x has been entered. The HERA II high Q^2 data will further constrain the overall picture of proton pdfs which will serve as a crucial input to LHC experiments.

The referee report was presented by P. Buchholz. He stressed that H1 has clearly prioritized physics analysis topics. The preliminary results on F_L are very promising. Moreover, the combined H1/ZEUS analyses on pdfs are working well yielding impressive results.

As regards the collaboration, new post-docs and students are fortunately joining. The DESY fellows and sufficient support for Eastern groups are vital and essential. Concerning Computing H1 is currently well supported by several major GRID centres and any support should be given to H1 in their efforts to secure sufficient GRID computing resources after LHC startup.

The PRC continued the discussion in the closed session.

5.2 Review of ZEUS Experiment

The ZEUS report in the closed session was given by T. Haas. He outlined the focus on the physics questions for the years 2008 to 2012. Current emphasis is put on the grand reprocessing of all HERA-II data until latest middle 2009. The ZEUS plan is to publish 10-15 papers/year in the future years. Although there are 80 on-going analyses, about 20 of them are heavily affected by manpower. This is particularly a concern after middle 2009. T. Haas stressed that not only sufficient computing power for simulation, reconstruction and analysis is necessary, but also enough manpower resources at today's level is required. In particular, funding travel to and from DESY and funding for inviting Eastern European colleagues is needed.

T. Haas reported briefly on the status of the ZEUS dismantling. The removal of most parts so far is as scheduled. The next major step is the shipment of the various UCAL modules to the Nevada Test site, which is expected to be finished by September. Afterwards, dismantling of the inner detector, beam pipe, solenoid and yoke starts.

G. Quast presented the referee's report summarizing the personnel situation and necessary requirements on resources for ZEUS. Continued support by DESY and BMBF in forthcoming POF period is of prime importance.

The PRC continued the discussion in the closed session.

The PRC congratulates the H1 and ZEUS collaborations for the continuous production of high quality physics results and for the combined H1/ZEUS analyses including impressive results of PDF fits. The PRC is impressed with the H1 collaboration's preliminary FL measurements and is looking forward to hearing the ZEUS's measurements at PRC66. The PRC commends the experiments for making good progress on dismantling the detectors. Both the H1 and ZEUS collaborations have defined priorities for physics analyses and plan to publish high priority analyses in a couple of years. We recommend that the laboratory continue the high level of support for the collaborations to guarantee excellent physics results and publications in the coming years. These include support of their efforts in securing sufficient Grid computing resources for Monte Carlo production, especially in 2008/9. Although the physicist resources to complete important physics analyses appear to be sufficient, the PRC recommends that the experiments and the laboratory pay special attention to the personpower development. To mitigate resource issues, the PRC encourages the collaborations to motivate their institutes to continue harvesting physics from the HERA data and encourages initiatives to strengthen links to the LHC.

5.3 Review of POL2000 Experiment

B. Sobloher reported on the status of the POL2000 analysis, a common H1, ZEUS and HERMES analysis effort on polarization. Progress has been made in understanding the data. The goals are to finish the analyses of the longitudinal (LPOL) and transverse (TPOL) polarimeters. However, there are nearly no resources available for LPOL, while one PhD-student is still working on the TPOL analysis. Currently, the combined uncertainty on polarization amounts to 3.4%. Improvements in understanding the systematic errors can only be expected if the serious manpower limitation can be resolved.

P. Buchholz presented the referee's report on POL2000. He acknowledged the impressive progress in understanding the cavity LPOL and TPOL data. He pointed further out that the analysis effort severely lacks manpower and without additional resources the current best knowledge of 3.5%.

The PRC continued the discussion in the closed session.

The PRC congratulates the polarization team for their impressive progress on understanding the cavity LPOL data and systematics and the TPOL simulation. The team now needs to complete the assessment of systematic uncertainties and to integrate the cavity measurements into the final polarimeter analysis. The PRC is concerned that the analysis effort still lacks scientist resources for a timely conclusion on the final uncertainty determination and the PRC concludes that without additional effort in the near future the final systematic uncertainty will likely remain at 3.5%, about a factor of 2 worse than aimed at for precision electroweak physics.

5.4: Review of HERMES Experiment

E. Kinney presented the HERMES report in the closed session. He emphasized the challenges in the full commissioning of the HERMES silicon recoil detector with observed non-linearity of the high gain readout of the chips. A new calibration of the sensors is necessary. He further illustrated the manpower situation at HERMES: The number of postdocs and senior staff seem stable but they are not taking on as many students. Support from DESY and HERMES institutions is required to keep critical core of first time postdocs and soon-to-graduate PhDs. E. Kinney reported on the HERMES publication status. Since last PRC meeting three manuscripts were submitted to journals, two long manuscripts are under final collaboration review and 8 drafts are in preparation.

The Referee report was presented by N. Saito on behalf of R. Milner and himself. He pointed out that HERMES has added new crucial information on the spin structure of the nucleon, especially concerning the significant results on $\Delta S(x)$ and $J_{u,d}$. The recoil detector analysis is making solid progress and a transition from detector performance understanding to physics analysis will happen soon. First results are expected in the fall and physics results by end of this year.

The PRC continued the discussion in the closed session.

The PRC congratulates the HERMES collaboration for the steady stream of high-quality physics results and for solid progress on data analysis to understand the performance of the recoil detector. We are pleased with the collaboration for establishing a plan for their management and clear analysis and publication priorities for the next few years. The PRC recommends that the collaboration's focus be on transitioning from understanding the detector performance to physics analysis of recoil data and that the laboratory continues the high level of support for the collaboration in order to guarantee excellent physics results and publications in the coming years.

Item 6: Proposal of Lepton-Nucleon Scattering Experiment at DORIS

R. Milner presented the status of the proposal for a new experiment at DORIS using the available MIT-BLAST detector and an unpolarized hydrogen gas target with the goal to determine the contribution of multiple photon exchange processes and to resolve the existing discrepancy in lepton-nucleon scattering data. R. Milner reported that the proposed experiment was now renamed to OLYMPUS¹.

The PRC notes that discussions of the last months showed that there are presently no "showstoppers" identified in running DORIS or installing and operating OLYMPUS (the former BLAST detector) in parallel with the DORIS light source. Currently the OLYMPUS experiment has more than 30 physicists from 10 institutions in Germany, Italy, Russia, U.K. and U.S. and about 100 people are needed to execute the

¹ **P**ositron-proton and **e**lectron-proton elastic scattering to test the **h**ypothesis of **M**ulti-**P**hoton exchange **U**sing **D**ORIS.

experiment. Since there is a window of about 3 years between 2009 and 2012 opening up for many other groups to join this experiment, the PRC believes that formal encouragement by the laboratory on the OLYMPUS experiment at this time will be very helpful. The PRC strongly encourages the collaboration to proceed and prepare a detailed proposal with a formal collaboration and details of funding by summer 2008.

Item 7: Review of ALPS

A. Lindner reported on the near term future of ALPS. The purchase of the new photo detector is underway which will improve the sensitivity of the experiment by a factor of 5. As regards the set up of the optical cavity in the magnet A. Lindner explained the current schedule expecting to reach 300W operation by early summer and on mid-term future plans to aim at a laser power of 10kW and installations of phase shifting plates to enhance the mass sensitivity. A. Lindner further reported on the necessary investments and financing as well as on personnel matters with new support from the Albert-Einstein Institute in Hannover.

The ALPS referee report was given by G. Quast on behalf of J. Kühn and himself.

The PRC continued the discussion in the closed session.

The ALPS group has modified its proposal a couple of times since the original proposal reviewed by the PRC in Feb. 2007. The current focus is no longer the test of the PVLAS signal, but the general search for light particles. The immediate steps to exceed the sensitivity of competing experiments involve increasing the laser power by installing a cavity in the magnet with a new partner, the MPI for Gravitational Physics (Albert Einstein Institute), and installing a better photon detector. The PRC recommends to proceed rapidly with the immediate improvements. In the more remote future, ALPS plans to install phase shifting plates and to increase the laser power inside the cavity up to ~10kW in order to increase the mass range of new particles. The PRC notes that although installation of the phase shifters appears to be easy to achieve improvement, it would need early study of technical implications on the operation of the laser system. The PRC is concerned about lacking physicist resources on the DESY site, and encourages the ALPS group to actively seek Ph.D. students and postdocs working full-time on the project. The PRC also encourages negotiations with the Albert-Einstein institute on the conditions to install and operate the high-power cavity. The PRC welcomes on-going collaboration with theorists to explore the various scenarios in reach of ALPS and for the interpretation of the data.

Item 8: Review of Astroparticle Physics

C. Spiering presented the "Deep Core" plans at IceCube to install six additional strings equipped with 60 DOMs each in the center of the IceCube array. Project funding could be secured through Sweden, Belgium and German Universities such that no request to DESY is made. He further mentioned that thoughts have been also given to re-

configure the last 6 to 11 standard strings of the outer ring into a larger arc without any additional hardware needed. A decision about this plan will be made by 2009. Both proposals would significantly enhance the physics capability by increasing the sensitivity at the low and high energy end. C. Spiering emphasized further that the outer arc installation could be used for the co-deployment of acoustic detector devices. At the next PRC meeting a presentation on first results from SPATS (South Pole Acoustic Test Setup) will be shown, in particular on noise levels and attenuation length measurements. These results will serve as crucial input before making any further proposals of a co-deployment of acoustic devices in the outer arc.

S. Schlenstedt presented the Cherenkov Telescope Array (CTA) project, as a new advanced facility for ground-based gamma ray astronomy which ideally complements the existing activities in neutrino astrophysics in a multi-messenger approach. The CTA project schedule foresees a 2008-2011 R&D and prototyping phase with the aim of a prototype standard telescope followed by construction of the array in the years 2012 to 2017. The planned DESY contributions in the R&D and prototyping phase are trigger & sensitivity studies, work on an array remote operation center, and design and prototyping of the drive and control system.

The Astroparticle referee report was given by G. Anton on behalf of T. Lohse and herself. She stressed the success of the soon to be finished production of the DOMs at DESY Zeuthen and the fast commissioning of IceCube. First physics results from IceCube with 9 strings were already published. The aim of the acoustic studies with SPATS is to describe in a quantitative way the acoustic sensitivity to neutrino signals in ice. For this a long-term observation of acoustic background is necessary. In this effort DESY is the leading institute. G. Anton expressed her expectations of a detailed report on acoustic results at the next PRC meeting. G. Anton further mentioned that CTA is a top priority project of ApPEC. The project would fit well with the DESY capabilities and with the DESY experiences from operation and construction of large scale HEP experiments.

The PRC continued the discussion in the closed session.

The PRC recognizes that about 50% of IceCube is installed, faster than expected, and IceCube physics analysis has begun. The PRC also notes that DESY's hardware contribution will be complete in 2008 and DESY's participation in Baikal finishes in 2008. DESY is leading the R&D on acoustic detectors on IceCube. The PRC looks forward to definitive results from test data taken in the end of 2007 at PRC66. The DESY group contributes significantly to the physics analysis and is leading point source analyses, especially with multi-messenger techniques. The PRC acknowledges that with strong participation and leadership roles in Baikal, Amanda, IceCube, and IceTop experiments and Acoustics detection development, DESY's astroparticle physics activities have been very successful and internationally visible. With termination of Baikal and completion of IceCube construction in the near future, DESY wants to redirect resources towards a major next generation gamma-ray observatory such as CTA to expand the multi-messenger technique and secure

DESY's leading role in astroparticle physics in the next decade. The PRC strongly supports this plan. The PRC recommends that the analysis of IceCube data should have the first priority and the engagement in CTA should be firmly established. The PRC underlines the importance to study the performance of acoustic detectors in IceCube.

Item 9: DESY 5 Year Program Oriented Funding Planning

The PRC had a first discussion on the DESY roadmap in preparation of the second 5 year cycle of the Program Oriented Funding of the Helmholtz Association. In particle physics, the theme is the Terascale physics at the energy frontier with HERA (data analysis and knowledge transfer to LHC), LHC (operations, data analysis, and upgrades), ILC (accelerator and detector R&D), and theory. These are presently all embedded within the Helmholtz Alliance. In astroparticle physics, the program consists of IceCube data analysis, R&D on acoustic detectors, and the next generation gamma-ray observatory such as CTA. Possible projects outside POF include ALPS upgrades and OLYMPUS. The PRC strongly supports the proposed DESY roadmap. Detailed discussions have to await clarification of boundary conditions such as starting values for funding. The PRC will continue the discussion with the DESY management via intermediate phone meetings to help prepare the final draft. The PRC will review the final draft at PRC66.

The current list of PRC referees:

P. Buchholz, T. Lohse:	H1
R. Milner, N. Saito:	HERMES
N. Saito:	BLAST/Olympus
Y.-K. Kim, G. Quast	ZEUS
G. Anton, T. Lohse	AMANDA/IceCube/CTA
P. Buchholz, R. Milner:	POL2000
A. White, J. Timmermans:	R&D for the ILC
W. Hollik, J. Kühn:	Theory
E. Perez, J. Timmermans:	LHC
J. Kühn, G. Quast	ALPS

Invited Reviewer at 65. PRC

U. Koetz	ILC R&D - TPC
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Minutes of 65. PRC, 01/02 April 2008