DRAFT

Agreement

between

Deutsches Elektronen-Synchrotron DESY
Notkestr. 85, D22607 Hamburg

represented by: H. Dosch
J. Mnich

and the **Institute**[1]

…….
…….
…….
…….
…….

represented by nn
nn

concerning the OLYMPUS Experiment

Preamble

The DESY Directorate has decided, on the recommendation of its scientific advisory committees, that the OLYMPUS experiments, elastic scattering of electrons (positrons) off protons, shall be performed at DORIS.

[1] Throughout this agreement, "Institute" refers to the institute listed above.

The purpose of this agreement is to define the distribution of charges and responsibilities between the parties for the execution of the OLYMPUS experiment. It further sets out the organizational and managerial guidelines to be followed by the parties.

On the basis of the letter of intent (or technical design report) and the decision of the DESY Directorate in 2009 the experiment will be performed by a collaboration of the following institutes (as of December 2009):

Arizona State University, USA

DESY, Hamburg, Germany

Hampton University, USA

INFN, Bari, Italy

INFN, Ferrara, Italy

INFN, Rome, Italy

Massachusetts Institute of Technology, Cambridge, USA

St. Petersburg Nuclear Physics Institute, Russia

Universität Bonn, Germany

University of Colorado, Boulder, USA

University of Glasgow, United Kingdom

University of Kentucky, USA

Universität Mainz, Germany

University of New Hampshire, USA

Yerevan Physics Institute, Armenia

For the construction of the detector and the performance of the experiment the partners of the collaboration agree on the following articles.

Article 1 - Personnel Matters

1. DESY guarantees entry to its site to the participants of the collaboration. During their stay at the site they are, as all the DESY staff, subject to the safety, business and other regulations currently in operation and as such are under the control of the DESY Directorate.

2. The foreign collaborators will remain under contract with their respective home institutions. Their salary and social benefits will remain the responsibility of the home institution. The home institution is responsible to make sure, that the necessary insurances for accident and liability, as well as medical insurance exist for their members when staying at DESY. The collaborators can, if they wish, participate in insurance plans existing at DESY. DESY will not be responsible for the cost of travel between the Institute and the Germany, or for medical expenses of collaborating or visiting scientists, or other members of collaborating teams.

Article 2 - Setup of the detector

1. The existing Bates Large Acceptance Spectrometer Toroid (BLAST) from MIT will be shipped to DESY in order to perform the OLYMPUS experiment at DORIS. Some parts of the detector will be upgraded or rebuilt, e.g. the target chamber.

   The present list of components, responsibilities and the time schedule are given in Appendices 1 and 2, respectively.

   The following rules will apply for all components of the detector:

   The Institute will bring those components, which it is providing, to DESY and will make sure that all the equipment brought to DESY will comply with the safety rules which apply within the Federal Republic of Germany and at DESY.

   The Institute will keep DESY informed on the time schedule, the technical progress as well as on any technical changes in the construction of the components of the detector for which it is responsible. Unless explicitly agreed otherwise, the Institute shall take responsibility for transporting the component(s) to DESY, installing it at the experimental site as well as for any tests at DESY if necessary. DESY will assist with the installation work in the experimental hall. To this end, DESY has appointed an engineer to coordinate the assembly of the detector in the experimental hall.

2. The Institute agrees that DESY shall have complete control of the detector components. DESY shall be considered as the importer of the components into the Federal Republic of Germany and as such provide customs clearance.

3. DESY will provide the collaboration with office and lab space free of charge, and will offer various infrastructure services and provide materials (see appendix 3). Authorized members of the collaborating institutes may place demands on the DESY workshops (within the available capacity) by means of workshop order forms, and draw stock materials from the DESY stores using the appropriate forms.

   According to the approved proposal and within the existing capacity and DESY's legal obligations, the collaboration may connect the experiment to the DESY computer centre and use the computer centre off-line. It shall be the responsibility of the collaboration to ensure that their hardware and software are compatible with the DESY installations.

   DESY and the collaborating institutes recognize the importance of networking facilities. Each side will make efforts to realize, within the given legal restrictions, the appropriate facilities for communication with each others computers.

   The handling of the costs for the above services is specified in Article 7.

Article 3 - Responsibility in the collaboration

The collaborating institutes shall, in agreement with the DESY Directorate, appoint a spokesman and a person responsible for safety, as well as a deputy for both and a technical coordinator. The spokesman represents the collaboration with respect to the DESY Directorate. All major decisions of the collaboration are approved by the Collaboration Board in which each collaborating institute will be represented.

The agencies responsible for funding the various groups involved in the OLYMPUS experiment, will be kept informed by the collaboration and by DESY on the status of the experiment.

Article 4 - Experimental Operation

1. The DESY Directorate, advised by its scientific advisory committee and after consulting the collaboration, has decided on the scheduled machine time as stated in Appendix 2.

2. The general responsibility for operating and maintaining the various components of the detector rests with the collaboration, including DESY as one of the collaborating groups. Each institute within the collaboration will participate in these activities. The overall contribution should be in relation to the number of physicists from the Institute participating in the experiment, as defined in Appendix 4.

In particular, it is expected that each group, which contributes to a component, will continue to make scientific and technical manpower as well as the necessary materials and equipment available to maintain that component in good working order.

After the initial running-in period, maintenance and repairs of the detector components are regarded as a common responsibility of the whole collaboration. However, those institutes which have the technical responsibility for construction and operation of these components are expected to coordinate this work and to provide the appropriate experts.

The collaborators agree that no institute will withdraw from the collaboration without a compelling reason, and only after consultation with the DESY Directorate.

During the experimental phase, DESY will make office space and infrastructure services available to the collaboration, in analogy to Article 2.3.

If a component provided by the Institute is no longer needed in the experiment, the DESY Directorate in agreement with the Institute will decide on the further use of the component of the detector. In case components return to the Institute, the Institute will be responsible for handling and shipping.

Article 5 – Dismantling of the detector

The OLYMPUS experiment will be dismantled after the end of data taking.

The Institute will be responsible for the dismantling of the detector component it has provided and will provide man power for the disassembly. In case the component will return back to the Institute, the Institute will be responsible for handling and shipping. In case the component is sent to another institute, the receiving institute will be responsible for handling and shipping.

Components without further use will be scrapped. Proceeds from scrap material sales will to go into the common fund.

General expenses during the dismantling will be charged to the common fund.

Article 6 - Results, inventions

1. The Institute agrees to make accessible to all partners of the collaboration without cost all those results that it obtained in connection with its work on the detector and the experiment, for use in the OLYMPUS experiment.

2. If any invention is made commonly by several partners, they shall proceed towards an agreement on the exploitation of the invention.

Article 7 – Expenses

1. a) General operating expenses in the experiment (ordered through the collaboration):

   The collaboration has agreed to share theses expenses according to the partition given in Appendix 4. The contribution of the Institutes to these expenses will be made on invoices for the net cost of materials and services as listed in Appendix 3 to which DESY will add an administration overhead charge which presently amounts to 10% of the gross/overall costs. In addition, VAT will be added (presently 7%). Invoices are sent in spring, based on estimates. Final invoices are sent 12 months later.

   b) Expenses for services provided by DESY for a single Institute

   DESY will charge the Institute for workshop services, stock items, and purchases by the Institute, as well as for use of DESY telecommunication services. An analogous administration overhead charge and VAT as under a) will apply.

2. Maintenance and repairs:

   The Institute is in general responsible for maintenance and repair of the detector components which it has provided, including the necessary materials and equipment within its fair share of responsibility as expressed in Article 4.2.

   Moreover, the Institute will contribute to the operation and maintenance of the OLYMPUS detector and off-line facilities by delegating personnel to DESY.

   For the common components the responsibility for maintenance and repair is with the whole collaboration, and the necessary financial resources will be shared according to Appendix 4, or by delegating technical manpower.

   In case of major breakdown or failure of detector components, the technical and financial problems have to be solved by the whole collaboration in consultation with the representatives of the Funding Agencies and the DESY Directorate.

Article 8 - Liability

DESY and the collaborating institutes will be mutually liable only for damage done intentionally or through gross negligence by their own employees or other persons working under their responsibility, against persons or property of other partners in the collaboration.

Article 9 - Effective Date, Amendments

1. This agreement will come into force on _____and continues until the end of data taking, except for Articles 5, 6, 7 and 8 which will remain valid after the data taking phase of the experiment is terminated.

2. In case of changes or additions to this agreement, a written amendment will be negotiated between the partners. Such an amendment is due if the composition of the collaboration or the sharing of responsibilities among the collaborators change substantially.

Hamburg,	nn
Deutsches Elektronen Synchrotron	nn
……	……..
.....	.....

Appendix 1

Institutional Responsibilities

Arizona State University:	TOF support, particle identification
DESY:	Installation
Hampton University:	Luminosity monitor
INFN, Bari:	GEM electronics
INFN, Ferrara:	Target
INFN, Rome:	Target
MIT:	BLAST spectrometer, wire chambers, tracking upgrade, target, transportation to DESY
St. Petersburg Nucl. Phys. Institute:	Installation, commissioning
Universität Bonn:	Trigger and data acquisition
University of Colorado:	Wire chambers
University of Glasgow:	Particle identification
University of Kentucky:	Simulations
Universität Mainz:	Trigger, data acquisition, GEM detectors
University of New Hampshire:	TOF scintillators
Yerevan:	Removal of ARGUS, installation, commissioning

OLYMPUS Infrastructure

Cooling system	Mainz (Bonn), DESY
Transformer, power supply, cabling	DESY, MIT

DORIS Modifications

Polarity switches	Bonn (Mainz)
Power/signal cables	DESY
Modification of quadrupole magnets	DESY
Modification/rebuilding kickers	DESY
Vacuum system	MIT, DESY
Removal of ARGUS	DESY, Yerevan
Construction work	DESY + external company
Rebuilding interaction region	DESY + help from institutes

Appendix 2

Scheduled Milestones and Beam-time

Milestones

Prepare DORIS Hall:	Sept 14, 2009 – Feb 15, 2010
OLYMPUS target and beam-line preparation at MIT:	Jun 29, 2009 –Sept 9, 2010
Target and beam-line arrives at DESY:	Aug 15, 2010
Modify DORIS beam-line and install OLYMPUS target:	Dec 6, 2010 – Feb 15, 2011
Test target and rates parasitically and during service periods	until July 11, 2011
Disassemble and ship OLYMPUS detector:	Jan 4 – March 7, 2010
OLYMPUS detector arrives at DESY:	May 21, 2010
Assemble OLYMPUS detector in park position:	May 24 – Sep 10, 2010
OLYMPUS commissioning in park position	until July 10, 2011
Install complete OLYMPUS experiment:	July 11 – Aug 12, 2011

Beam-time

Commission OLYMPUS in DORIS with beam: Parasitic mode and some dedicated shifts during service weeks.	Aug 15, 2011 – Nov 11, 2011
Dedicated OLYMPUS data taking runs:	Jan 31 – Feb 27, 2012 Oct 22 – Dec 21, 2012

Appendix 3

Services and Materials

Services and materials provided by DESY for the operation of the OLYMPUS experiment include

Electric power
Gases
Materials, tools, stock items, parts ordered
Workshop services
Computing resources on the central computing facilities at DESY
(data storage and processing)

Expenses for these items, provided by DESY, are considered operating expenses of the experiment.

Appendix 4

Division of Operating Expenses

The operating costs according to Article 7 of this agreement and Appendix 4 will be borne by the collaborating institutes in proportion to the number of physicists from these institutions participating in the experiment. The partition shall be based on the number of names on the publications (excluding students).

At present (December 2009) the number of physicists in the experiment is 49. Their present distribution among the institutes is approximately given below.

Institute	Number scientists	Fraction in %
Bonn	7	14.3
Mainz	6	12.2
DESY	3	6.1
sum		32.7
Arizona State U.	1	2.0
Hampton U.	1	2.0
MIT	5	10.2
U. of Colorado	1	2.0
U. of Kentucky	1	2.0
U. of New Hampshire	1	2.0
sum		20.4
INFN, Bari	2	4.1
INFN, Ferrara	3	6.1
INFN, Rome	5	10.2
sum		20.4
Glasgow	3	6.1
St. Petersburg	6	12.2
Yerevan	4	8.2
Sum	49	

The collaboration performs once a year in September a head count and informs DESY about the update. This yearly update will be used to calculate the partition of operating expenses for the following year.