

4 May 2005

LIP International Advisory Committee
Meeting of 18 and 19 March 2005 in Lisbon

Present: E. R. de Arantes e Oliveira, C. W. E. van Eijk,
P. G. Innocenti, H. Schopper.
Apologies: J. E. Augustin, J. M. Gago, A. Policarpo

The LIP International Advisory Committee met in Lisbon on 18 and 19 March 2005 to review the 2004 results and discuss the 2005 programme of work.

In a formal session on the first day Committee Members met with members of the LIP Directorate, G. Barreira (Lisbon), J. Carvalho (Coimbra), R. Marques (Coimbra) and M. Pimenta (Lisbon). Catarina Espirito Santo, secretary of the LIP Scientific Committee also participated in the meeting.

Subsequently, Committee Members met with the LIP group leaders and discussed results and perspectives of the current research themes.

On the second day, Committee Members joined the LIP Scientific Committee in a question-and-answer session with the scientific staff of the Laboratory

The LIP Management informed the Committee of the current financial situation. After struggling with cash flow problems for a large fraction of 2004, funds were eventually made available late in that year. Unfortunately there are already indications that cash flow may be a problem again in 2005, as the Fundo CERN is holding its project evaluation meeting only in April. As financing by the Fundo CERN represents the major source for projects other than construction of the LHC experiments, its timely functioning conditions the schedule and progress of many activities: substantial delays can have disrupting consequences on the scientific programme.

The Committee also remarked that the Fundo CERN had not supported LIP computing for many years. This is a point of concern, as LHC computing will be very demanding and a proper computing infrastructure is essential to produce physics results in Portugal, a rewarding and visible return on the Portuguese investment in the LHC detectors.

The Committee was pleased to note that the status of LIP as an Associate Laboratory resulted in hiring staff both in Coimbra and in Lisbon. The future development of the Laboratory relies heavily on the expectation that staff can be hired regularly in the coming years, according to the agreed plan.

The Committee reviewed the results of the research programme of 2004 and discussed the plans for 2005.

The LIP team in ATLAS continued the calibration of the calorimeter modules in a beam at CERN with very satisfactory results, as performance of the modules exceeds specifications. The work for the CMS trigger proceeded with construction of hardware and implementation of software. In reviewing the progress in the construction of the LHC experiments the Committee could not hide its concern for the additional costs faced by LIP, on top of what is written in the ATLAS and CMS Memoranda of Understanding, and on the future operation costs.

The Portuguese teams in the Delphi and NA50 experiments at CERN are concluding the

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data analysis and the final results will be published in 2005. The NA50 team which has joined Compass for the 2004 run, is now working on a redesign of the detector control system.

Developments in instrumentation continued in Coimbra. Resistive plate chambers were tested for time-of-flight measurements in the HADES experiment at GSI and for use in a small animal PET; a project has also started to study the feasibility of using RPCs in a whole-body PET system. Tests on liquid xenon and argon scintillation continued with a view to using this technique for dark matter searches, in collaboration with UK DM.

Research on the applications of HEP techniques to medical diagnostics were strengthened both in Lisbon and in Algarve through an important cross-disciplinary project on Positron Emission Mammography, PEM. An application of GEANT4 to Monte-Carlo simulation of body dosimetry is producing encouraging results.

LIP honoured all engagements both in AMS and in EUSO. However, the schedule for both projects is uncertain. Taking into account these uncertainties, related to the future of the International Space Station, LIP is encouraged to consider other opportunities, namely the Auger Collaboration.

GRID computing suffered from lack of funding in 2004, but remains a priority item to prepare for computing for the LHC experiments.

The Committee was informed of the new efforts to find a new building for the Laboratory in Lisbon, after the cancellation of the previous project in 2003 due to a shortage of funds. The Committee considers this as a very important problem and looks forward to a prompt solution.

The Committee was very pleased by the outreach efforts of LIP, in particular in the frame of the 2005 Year of Physics. It also appreciated the engagement of LIP in the organisation of the 2005 Europhysics Conference on High Energy Physics in June 2005 in Lisbon and the idea of associating the public to the conference, and the ICDL-IEEE conference in Coimbra, in June 2005.

The conclusions by the Committee are a very positive appreciation of the results achieved in the past year, notwithstanding funding difficulties. It also valued the innovation of the research programme and the spirit of the staff, with whom it had a fruitful exchange. As in previous reviews, a point of concern remains on the means and mechanism to ensure stable resources for long range projects.

E. R. de Arantes e Oliveira

P. G. Innocenti.

C. W. E. van Eijk

H. Schopper