

**MINUTES on the 110th Meeting of the SPSC
Held on Tuesday 25 June and Wednesday 26 June 2013**

OPEN SESSION

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|----|---|--------------------------------|
| 1. | Status and plans of the COMPASS experiment | Fabienne Kunne |
| 2. | Status and plans of the ICARUS experiment | Daniele Gibin and Carlo Rubbia |
| 3. | Status and plans of the OPERA experiment | Giovanni De Lellis |
| 4. | Expression of interest for a facility for neutrinos from stored muons (NuSTORM) | Kenneth Long |
| 5. | Overview of the AIDA project | Etam Noah Messomo |

CLOSED SESSION

Present:

S. Bertolucci²⁾, P. Bloch, P. Collier, M. Diehl, L. Gatignon, A. Ianni, I. Irastorza, A. Jokinen, S. Maury, B. Panzer-Steindl, M. Rozanska, C. Rembser (scientific secretary), E. Rondio, F. Sikler, S. Schönert, A. Specka¹⁾, R. Thompson, C. Vallée (Chair), U. Wiedemann, H. Wilkens, M. Wing, I. Wingerter-Seez

¹⁾ Present on Tuesday only, ²⁾ Present on Wednesday only

Apologies: T. Lasserre, L. Ramello, N. Severijns



1. MINUTES OF THE 109th MEETING OF THE SPSC HELD
ON 9 APRIL AND 10 APRIL 2013

The minutes of SPSC109 were approved (CERN-SPSC-2013-017, SPSC-109).

2. CHAIRMAN'S REPORT FROM RB204

The Chairman reported on the Research Board (RB) meeting, RB204.

The following points were presented and, where necessary, discussed.

- 1) The SPSC summarised the results of the successful NA62 first technical run with beam, as well as the good progress in the construction of the apparatus towards a first physics run end of 2014.
- 2) The SPSC presented the successful DIRAC 2012 run for metastable atoms, and expressed its concern about convergence of the analysis of the earlier data for short-lived atoms.
- 3) The Committee presented the results obtained in 2012 by the CLOUD collaboration and recommended the run planned in 2013. The SPSC also recommended a more open and timely publication of the results of the Collaboration and requested a document motivating their long-term programme in the East Hall.
- 4) The SPSC showed the results obtained by the RD52/DREAM calorimetry Collaboration in 2012, and expressed its wish for a detailed motivation of the test beams requested in 2014.
- 5) The Committee summarised the review of the BASE proposal and expressed its positive recommendation for approval of the experiment with a timely installation during LS1.
- 6) The SPSC presented the main features of the AWAKE TDR and the points under review.
- 7) As a follow-up of RB203, the Committee reported on the successful procurement of an adequate laser by OSQAR and expressed its positive recommendation for their 2013 run.

The Research Board noted points 1), 2), 4), 6) and endorsed points 3), 5) and 7). As regards point 7) a long-term plan of OSQAR was requested as well as insights on the prospects for collaboration with ALPS.

3. STATUS OF ACCELERATORS

S. Maury reported on the ongoing shutdown activities.

4. STATUS OF EXPERIMENTAL AREAS

L. Gatignon summarised the ongoing shutdown work in the experimental areas.

5. DISCUSSION OF THE OPEN SESSION

5.1 COMPASS

The SPSC **congratulates** the COMPASS collaboration for publishing a broad range of results from the muon beam programme.

The SPSC **notes with pleasure** the progress in the analysis and the presented results from the hadron programme and **expects** publications in this subject area soon.

The SPSC **is pleased** with the installation of the improved setup and successful Primakov and Deep Virtual Compton Scattering (DVCS) data taking in 2012. The Committee **is looking forward to** seeing first results.

The SPSC **takes note** of the good progress in the preparations of the polarized Drell-Yan setup. The SPSC **is concerned** about the absence of a Technical Coordinator since December 2012 and **encourages** the collaboration to nominate a coordinator as soon as possible.

5.2 CNGS

The Committee **congratulates** the CERN accelerator and experimental area teams for the efficient operation of the CNGS beam line over the last years.

5.3 ICARUS

The SPSC **congratulates** the ICARUS collaboration for successfully completing the CNGS data taking.

The Committee **notes with pleasure** the updated search for electron neutrino appearance leading to improved limits on sterile neutrino admixture. The SPSC **is looking forward to** analyses of other physics channels.

5.4 OPERA

The SPSC **congratulates** the OPERA collaboration for successfully completing the CNGS data taking.

The SPSC **notes with pleasure** the progress achieved in sterile neutrino search providing the most stringent limits in the low Δm^2 mass range.

The Committee **congratulates** the OPERA collaboration for the observation of the third tau neutrino event and **notes with pleasure** the improved analysis leading to an observation of tau neutrino appearance at 3.5 sigma C.L..

The SPSC **emphasises** the necessity to complete the decay search in the emulsion bricks and carry through the approved baseline programme. The Committee **expects** adequate support and funding for the collaboration to achieve this goal.

5.5 NuSTORM (EOI009)

The Committee **received** with interest the answers to the referees' questions on the Expression of Interest "Neutrinos from Stored Muons (NuSTORM)", SPSC-EOI-009.

The SPSC **recognises** the NuSTORM project as an important step in the long-term development of a neutrino factory, presently considered as the ultimate facility to study CP violation in the neutrino sector. NuSTORM would also constitute a test bed for accelerator and beam physics R&D. The Committee **appreciates** that, in addition to these long term goals, NuSTORM could also provide the opportunity to settle important questions in the sector of sterile neutrinos, and to perform precise neutrino cross section measurements for the future neutrino programmes.

Currently, conventional long baseline LA-based programmes are being discussed in Europe (LBNO) and in the US (LBNE), aiming at the determination of CP violation in the neutrino sector on a shorter time scale than neutrino factories. The Committee **notes** that the NuSTORM collaboration is also exploring the possibility of being hosted by Fermilab and that there is a sizeable overlap with the LBNO community. All projects under discussion would involve a large amount of funding and resources, which calls for cooperation and prioritisation within the neutrino community.

In this context, the SPSC **considers** that, in line with the recently updated European Strategy, an involvement in NuSTORM could be part of the CERN contributions to the development of future neutrino programmes. A further review of the project would require a more focused proposal identifying which tasks could be performed at CERN within a more general project defined in cooperation with Fermilab and other contributing institutes.

6. FOLLOW-UP ON EXPERIMENTS AND PROPOSALS

6.1 AWAKE (TDR003)

The Committee **received** with interest the answers to the referees' questions on the Design Report "A Proton-Driven Plasma Wakefield Acceleration Experiment at CERN", SPSC-TDR-003.

The SPSC **supports** the motivation for the AWAKE project to demonstrate proton driven plasma wakefield acceleration. The Committee **recognises** the unique opportunity currently offered at CERN by the availability of the SPS proton beam and of the CNGS primary proton beam line to carry out the programme. The Committee **acknowledges** the solid preparation of the programme by the AWAKE collaboration and the steady progress made and described in the Design Report and 15 technical notes since the submission of the Letter of Intent (SPSC-I-240-2011).

The SPSC **recommends** the AWAKE proposal for approval.

The Committee **encourages** the collaboration to secure funding and to further strengthen the collaboration. The Committee **considers** the schedule of the project given in the Design Report as challenging and **recommends** that the collaboration adapt it to external constraints and define detailed milestones to monitor the progress.

7. A.O.B.

7.1 DATES OF THE SPSC MEETINGS IN 2014

In 2014 the SPSC will meet on the following dates:

- 14 January 2014 and 15 January 2014
- 8 April 2014 and 9 April 2014
- 24 June 2014 and 25 June 2014
- 21 October 2014 and 22 October 2014

8. DOCUMENTS RECEIVED

- COMPASS Status Report 2013, CERN-SPSC-2013-018, SPSC-SR-119-2013;
- Status report of the OPERA experiment, CERN-SPSC-2013-019, SPSC-SR-120-2013;
- ICARUS report to the June 2013 meeting of the SPS-C, CERN-SPSC-2013-020, SPSC-SR-121-2013;
- Minutes of the 109th meeting of the SPSC, Tuesday 9 and Wednesday 10 April 2013, CERN-SPSC-2013-017, SPSC-109
- Neutrinos from Stored Muons (NuSTORM): Expression of Interest, CERN-SPSC-2013-015, SPSC-EOI-009; 2013.

CERN Document Server (CDS):

<http://cdsweb.cern.ch/search?sc=1&p=SPSC>