

Minutes of ILIMA Collaboration Board
21 September, 2018, GSI (10:00 — 12:00)

Attendants: Christophor Kozhuharov, Yuri Litvinov, Wolfgang Plaß, Markus Steck, Natalia Kuzminchuk-Feuerstein (representing Christoph Scheidenberger), Helmut Weick.

Skype: Phil Walker.

Proxy for Klaus Blaum, Roman Gernhäuser, Gregory Lane → Yuri Litvinov

1. Membership

Michael Lestinsky (GSI), Dieter Schneider (NIF), Martino Trasinelli (Sorbonne) invited and approved as a new ILIMA members.

2. Previous minutes

The minutes of previous were distributed only hours on front of the meeting and can only be approved later.

3. Current status of the planned storage rings at GSI-FAIR

MS reports: Accelerator commissioning and beam time - not according to the plan. Because of the fire incident at the UNILAC RF in July and metal pieces were discovered in the air cooling system and a bigger area has to be cleaned now. UNILAC machine operation is expected at the end of October. SIS beam operation should start at the end of November. The beam could be sent to ESR in December.

Control system is new and very complex. The draft version of the control system (not full capability) is prepared. The whole beam time program is shifted to 2019. The work on the control system is still ongoing and will be continued during the beam time next spring. The storage mode of the control system has to be prepared till the end of 2019.

CK comments: about 8 months is required to develop the software program.

YL: E121 experiment (Measurement of the bound state beta decay of bare ^{205}Tl ions) is shifted to 2020. In March/April 2019 the test of Schottky detector is planned. It will be possible to store the beam for 10-20 s.

MS: All diagnostic can be tested, which is required to store the beam for 10-20 s. Even if RFQ cannot go to high voltage it should not affect the commissioning.

HW reports for CR: The founding was approved for civil construction of south part (1-2 months ago). All south civil constructions are delayed by 8 months.

YL reports on status of FAIR: The tender for the civil construction is with options. The money is given only for certain parts. He reported that staging scenarios for SIS-100, LEB, CR and HESR were discussed at closed meeting of GSI research representatives.

In phase 1, 2 – CR is not an option. The collaboration board has to put certain percentage of possible experimental program for different options. Different options have to be discussed among collaborations and depending on different aspects:

- Will be SIS100 ready in the beginning of 2025?
- CBM cave and APPA cave.
- LEB and HEB --> NUSTAR collaboration will be interested in LEB (with SIS18+LEB?).
- SIS18 + ESR+ HESR --> separation of the ground and isomeric state at ESR and long time measurement at HESR as an option for ILIMA?

Discussion on strategy:

YL: option SIS18+ESR+HESR should be available for ILIMA. The life time of long lived nuclei could be measured. For example the list of possible cases with EC captures -- beta decay proposed by I. Dillmann.

The board has agreed that the priority for ILIMA experimental program is to build CR. But in case it is not possible until 2025 the board suggests about 20 % of the experimental program can be performed with an option SIS18-ESR-HESR.

It is suggested to TY to speak about possible options/priorities with Wolfram Korten before the discussion at NUSTAR meeting in Milan.

PW comments: to put 10-20% on possible experimental program. ESR should be in continuous operation before CR / NESR is built. It has been planned and official statement.

TY comments: In case CR is delayed to after 2025 ILIMA will lose about 80% of its experimental program. As an additional strategy we could perform 20% of the program with SIS18+ESR+HESR option.

8. TDR status

Replies to question on Schottky and heavy-ion detectors were submitted, comments on the TOF-TDR are still missing.

ECE meeting (9 - 10 October). The TDRs should be approved there before FAIR Council in December.

YT comments: The status of all sub-collaborations has to be presented for Joint Science Council. The documents are prepared (was read by Phil Walker). It was discussed if ^{205}Tl experiment should be mentioned in the documents as an approved experiment for 2018.

9. Conference and Workshops

YL suggests writing a HESR physics book. The whole writing should be completed until spring 2019. YL will take care and inform collaboration about details.

Workshop on stochastic cooling at GSI – December 2018.

NUSTAR annual meeting at GSI, February 2019.

TY comments: there are two R3 experiments scheduled to October - November. Successful results could be presented during NUSTAR meeting.

DPG spring meeting of the section Atoms, Molecules, Quantum optics and plasma (SAMOP): 10.03-15.03.2019, Rostock;

27th International Nuclear Physics Conference (INPC 2019): 29.07 - 02.08.2019, Glasgow.

Nuclear Physics in Astrophysics IX (NPA IX): 15.09 – 20.09.19, Castle Waldthausen – Frankfurt.

10. Any other business

Second Schottky detector has been installed in ESR.