

Minutes of the ISOLDE Physics Group Meeting, September 14th 2016

There were no comments to the minutes of the previous physics group meeting.

Technical news

– GPS/REX/HIE-ISOLDE

- The first HIE-ISOLDE run of the year took place until Tuesday afternoon (when it was interrupted by the cooling down of the machines for the technical stop), Miniball was taking $^{110}\text{Sn}^{26+}$ beams from a UC_x target with laser ionization, at 4.5 MeV / u.
- In the setup phase there were some further transmission problems with REX, it seems that the settings obtained with ^{39}K a few days in the past were not easy to scale to the beam of interest. It was necessary to retune the whole machine for the Sn beam.
- The yield checks performed last Wednesday with the tape station gave the impression that the yields were very low, however checks performed on Thursday with collections at the SSP beam line showed that the yields are in line with expectations, which points again to problems with the ISOLDE tape station.
- On Friday a final setup of the whole production-separation-post-acceleration chain was performed with $^{133}\text{Cs}^{31+}$, then in the evening $^{110}\text{Sn}^{26+}$ was delivered to Miniball at 4.5 MeV/u.
- During operation there has been a target and line trip and several trips of the room-temperature RFQ. The replaced RF tube from the previous week seems not to have solved the problem, although following an intervention yesterday there are signs that the problem is now identified.
- There were also a few radiation alarms over the week-end in certain hot-spots, where the radiation level rose above the 20 $\mu\text{S}/\text{h}$ threshold. Signs were placed at these locations to warn users and prevent access. The proton current was also reduced in order to limit the production of ^{110}Sn beams.
- There was a low helium-level alarm in REXTRAP on Sunday, thought to be due to the liquid helium sensor, which displayed a lower level than the actual one.
- Protons were stopped on Tuesday afternoon for a technical stop scheduled Wednesday-Thursday. The stop is in order to replace the cathode of the proton source of Linac 2, which delivers insufficient beam intensity. The intervention has already been performed and so far everything seems to be going smoothly. The technical stop is also the opportunity for a CERN-wide controls upgrade, which might clash with some of the intended ISOLDE off-line operations during this time.

– HRS

- There have been no operations on HRS in the previous week. The UC_x target used during the last Bi run has been on-line ever since.

– RILIS

- There has been a smooth run on Sn, no problems reported.
- From time to time RILIS setup/optimization is needed during a run, users must allocate this time to achieve optimum running conditions.
- Preparations are starting for the Dy ionization scheme for next week's collections on GPS.

Physics and schedule

- The Miniball users are satisfied with the level of statistics obtained on ^{110}Sn . After protons are back on GPS Miniball will continue with ^{110}Sn , abandoning the original plan to move to ^{108}Sn

for the rest of the GPS beam time. They will be running in this configuration until Monday morning.

- The next HIE-ISOLDE target (UC_x, cold plasma) will be installed tomorrow on HRS for the study of ¹⁴²Xe.
- If time and ISOLDE controls allow (following the upgrade) there could be some VITO stable-beam tests during the technical stop.
- On Monday a new Ta target will be installed on GPS, which will be used for collections of rare-earth isotopes, particularly Tb (from Dy decay), for medical applications. It is a crucial run because the isotopes collected for imaging may be used on a human patient. The group at PSI and Germany have the permission to perform this experiment until the end of 2016. Thereafter the full approval process with the appropriate authorities will have to be followed, which will be at least 1-2 years.
- From Monday on there might be a first attempt to transport polarized beams through the VITO beam line. The beam line has been assembled over the last weeks and the first crucial test concerns the ability to maintain the state of polarization of the beam during the transport through the VITO beam line.
- There will be some changes to the final part of the schedule in order to allow more preparation time for the HIE-ISOLDE run at 5.5 MeV/u. The physics group acknowledges the remarkable effort dedicated by the HIE-ISOLDE commissioning team and in particular Jose Alberto and the ISOLDE operators in order to have the machine ready on time for the scheduled running period.

Safety

- Users are reminded to respect the indications of radiation warnings or barriers.

Visits

- The VIP visit of the Finnish Minister of Science was cancelled.
- There will be a visit of KU Leuven alumni on Thursday.

AOB

- The next INTC Meeting will take place November 3rd. It is a one-day meeting, meaning that presenters might need to travel one day in advance. The deadline for new proposals is Thursday October 6th. It helps preparations to inform Karl Johnston in advance of the intent to submit an INTC document.
- Problems were reported concerning the use of CERN GSM phones in France.

Seminar

- The meeting was followed by the summer-student talks of Jindaratsamee Phrompao (IDS) with the title *Test and optimization of the IDS fast timing electronics* and Paula Aschenbrenner (VITO) with the title *Status of L'APOLLINE at the VITO beamline*, as well as the seminar of Bertram Blank from CEN Bordeaux-Gradignan with the title *New plans for Witch*.

The next PG meeting will be held Wednesday September 21st, followed by the summer-student talk of Monika Piersa from IDS and a seminar by Etienne Vermeulen from PSI, Zurich.

Minutes taken by VM