

# Minutes of the ISOLDE Physics Group Meeting, August 9<sup>th</sup> 2017

The meeting took place in the visitors' room of b. 508. There were no comments to the minutes of the last ISOLDE PGM.

## Technical news

### – GPS/REX/HIE-ISOLDE

- Preparations have been ongoing for the following run on  $^{140}\text{Sm}$ . A longer setup time than anticipated was available because the target of the previous experiment became unusable before the scheduled end of the run.
- The HT2 power supply broke again. Repeated malfunctions of power supplies, including one being dropped during transport, led to the situation of not having any spares available in case another one is lost. A consolidation work is being planned for next year, but for the time being the situation is difficult.
- Following the trip of a 64 A ISOLDE circuit breaker which brought down the vacuum system last week, a new circuit breaker is being installed, in order to decouple the mains outlet which triggered it from the ISOLDE machine network.

### – HRS

- Until the beginning of this week,  $^{35}\text{Ar}$  beams have delivered to the VITO experiment.
- CA0 power supplies were found to be regularly tripping. It is something to check first in case the beam is suddenly gone.
- There were concomitant power trips on HRS and GPS, bringing down target heating and also a front-end computer which broke.
- There were limitations of the proton current from the booster until yesterday, but this did not significantly affect the VITO experiment. On GPS however the proton scan had to be redone.
- The HRS pump of ISCOOL which had malfunctioned was repaired, but not turned on, due to concerns of filling the exhaust balloons. It will be turned on for the following run if this is necessary or the ISOLTRAP beam time.

### – RILIS

- An alternative Sm ionization scheme using a single TiSa laser was set up, because the dye scheme would require much more on-shift work by the RILIS team.
- A Dy scheme is being prepared in order to check Dy production from the GPS Ta target with a  $\text{GdB}_6$  line. This line seemed to suppress oxides and surface ions quite well but also Tb, so it is a question whether this type of target can be used for collection of Dy radioisotopes for medical applications.
- A new air conditioning unit was installed and the old one which was repaired serves as back-up.

### – Targets

- Target production is on track.
- The target for the Rb run in September only needs to be loaded.
- The target for the noble-gas run next week also just requires filling with uranium, which will be performed on Friday.
- Target #534 (a new unit, but from a previously constructed base) will be used for the Cd collections on GPS next week.
- Yesterday morning a few targets were recovered from the Intersecting Storage Rings: a Ta and two  $\text{UC}_x$  targets which, were never or lightly used, will serve as back-up for this year.

## Physics and schedule

- The VITO run on  $^{35}\text{Ar}$  finished on Tuesday morning. The run itself went well, with several crystals tested as possible hosts for the beta-asymmetry measurement on polarized  $^{35}\text{Ar}$ . The goal is to achieve at least 10% beta asymmetry. So far the maximum asymmetry found was only 1.5%.
- The following experiment will take place on GPS (using HIE-ISOLDE and Miniball) and will study the Coulomb excitation of  $^{140}\text{Sm}$ . The experiment builds on the result of a previous REX run in 2012, when the available energy only allowed Coulex on Mo. Now Pb can be used as a target and will allow probing higher-lying levels. Preliminarily the rates seem very good and data taking is ongoing.

## Safety

- The safety report mostly contains comments of interest for the building TSOs. Setup-specific comments will be addressed to persons of contact.

## Visits

- There will be a visit of Polish students on Friday.
- A visit of ISOLDE by an interested PhD candidate will take place after this meeting.
- A visit of 40 teachers will take place on Thursday next week at 9:30. Volunteers are kindly asked to contact Kara.

## AOB

- The 6-month deadline for submitting travel claims to CERN is important to keep, as flexibility is very limited.

## Seminar

- The meeting was followed by the summer-student presentations of Savannah Clawson, Caitlin Beattie and Yuen Ting Chung.

The next PG meeting will take place on Wednesday, August 16<sup>th</sup>, at 14:00 in the visitors' room of b. 508. It will be followed by the seminar of Sebastian George from MPIK Heidelberg with the title "The Cryogenic Storage Ring Project".

Minutes taken by VM