ISOLDE Physics Group Meeting 10/10/2018

Technical news

- **GPS**
  - Molten Pb target for ^{206}Hg to ISS.
  - STAGISO timing may have to be checked, but not be a problem for the current run.
  - QS20 is broken. A retune of the separator was required to get beam to REX trap with good transmission.

- **HRS**
  - COLLAPS run this week with Sb.
  - QP180 resetting itself still. Manually rebooted each time.
  - Timing of SEM grids changed, which caused problems.
  - Issues with trips in LA0 and CA0, but infrequent. Nothing else major.

- **REX/HIE**
  - Swift and smooth change last week from TREX to ISS for ^{28}Mg beam.
  - EBIS cathode current deteriorating overnight.
  - Last year the optimal cathode current was ~200 mA, now it is down to ~160 mA and unstable.
  - Transmission through LINAC for ^{206}Hg/^{130}Xe only 60%, but will be improved tomorrow.

- **RILIS**
  - TiSa only scheme for Sb means stable operation.
  - Fast change over to Hg after the COLLAPS run had finished.

- **Targets**
  - #619 molten Pb unit on GPS, same target as last year for ^{206}Hg.
  - Efficiency issues for negative ion source run, but being worked on.

- **MEDICIS**
  - Numerous short irradiations for Simon Steggeman's PhD project.
  - Target irradiation on the wrong position last week. Protons sent on to target instead of converter for a short time.

Physics

- **COLLAPS**
  - Measure isotope shift, magnetic-dipole and electric-quadrupole moments for many Sb isotopes.
  - Spectrum of ^{134}Sb is very nice, but represents the limit of the measurement.
  - ^{135}Sb was contaminated too strongly to get anything out.

- **ISS**
  - Excellent ^{28}Mg beam to both TREX and ISS.

- Very stable and intensity was a factor of ~2 more than the proposal value.
- Beam energy for both runs was ~9.4 MeV/u.
- Performance of ISS was better than expected for first RIB run.
- Very happy spokespersons, demonstrated ISS is working to specification!

- **SSP - Biophysics**
  - PAC measurements using ^{199m}Hg, implanting in ice.
  - Difficult to perform chemistry due to efficiency of technique.
  - ^{118m}Sb tested for PAC for the first time.
  - Collections were difficult due to high activity from ^{118}Cs, but a promising new isotope if Cs can be suppressed.

Other business

- **Visits**
  - Dutch students on Thursday. Already have guides.
  - Bulgarian teachers programme on Monday. Guides sorted.

- **Safety**
  - Avoid clashes with visits and collections in the future.
  - Successfully managed this time with good communication, but please check with schedule and operators before taking visit downstairs.
  - Full evaluation of winter physics for HIE-ISOLDE, in particular the contamination of the 4th cryomodule, to be taken out for repair during LS2.

- **A.O.B.**
  - Emiliano Piselli will rejoin the ISOLDE operations team after some years at the PS.
  - Emanuelle Matli to move on to focus on other projects, such as the timetabling application that he developed.
  - Long shutdown physics and operations: services to be discussed.
  - There will be power cuts and water supply outages.
  - Technical group need info on who will operate and when. Email will go out next week, please respond in detail to help planning.
  - Simon has cleaned out the fridge near the offices. There was rotting fod inside. Please label food and remove it when finished.

The meeting was followed by a seminar by Benjamin Kay from Argonne National Laboratory, USA, titled *"Bubbles, binding, and the spin-orbit interaction"* – https://indico.cern.ch/event/764189.

Next weeks meeting will be back in the visitors room of building 26.

Minutes taken by LPG