

**SANE Short Term Run Plan –Tue. 2/24 day/eve – Wed. 2/25 owl**

**RUN PLAN** (SAVE previous run plans in the Run Plans binder)

Tue. 2/24 day/eve to Wed. 2/25 owl. Opportunistic accesses: when switching targets, during anneals (check with the target experts) or to delay or move up anneal times to avoid annealing between midnight and 6:00 AM. Keep < 30 min. long if possible.

MOLLER: If not done yet a Moller measurement will be done in conjunction with the anneal.

BEAM (for production runs):

Current : **85 to 110 nA**, as needed depending on the response of the polarization.

- **check that the SR is ON** and configured with *New Settings for 5.9 GeV Beam* as explained in hcllog entry **175618 (20 mm dia.) Spiral: 1.37 V; circles 1 & 2: 1.28 V**  
*If needed, adjust Slow Raster to have 20 mm diameter (hcllog 177048)*
- **fast raster 1 x 1 mm**  
beam at  $x = -1.0, y = -0.66$  mm on BPM 3H00A;  
 $x = -1.5, y = -0.3$  mm on BPM 3H00B
- Enter all required variables in the on-line Run Sheets, including the target polarization at the beginning and end of each run

DATA:

**HMS:** should be set at central momentum to 4.17 GeV/c, 22°, protons for *ep* elastics.

- Check target and beam centering. Take a short run (<10 min) at about 60 nA and look at the slow raster ADC plot. No indications of the cup walls should be visible at the edges of the raster. Use target encoder values of hcllog **176791**.
- If beam centering is needed, follow run plan for 2/13/09, in the binder and on the wiki.  
*Don't steer the beam more than +/- 0.5 mm from above positions.*
- *Make sure all detectors are ON, LED's off and retracted, prescale factors and trigger type correct, etc. before starting*
- Take data with the BOTTOM target with **POSITIVE** polarization. Watch the polarization rate of increase. Wait up to 30 min. from the start of polarizing:
- If it takes *more than 30 min to get to 50%*, it may be *over annealed*, it probably can/will improve with beam. Ask for **110 nA** and start taking data.
  - If the polarization increases with beam continue at 110 nA for up to one hour after the polarization starts dropping, then take data at **95 nA** until the polarization drops

below 60%.

- If the polarization does not increase after 2 h of beam and if Moller is not done yet, proceed to Anneal & Moller, otherwise move to the TOP.
- If the polarization rises *above 60% in  $\leq 30$  min*, anneal was OK. Ask for **95 nA**, take ~1 h long runs. Continue with 1 h runs until the polarization is at ~ 0.75 of its maximum value.
- If the polarization rises quickly but it does not get significantly above 70%, and it starts dropping as soon as beam is turned on, it probably is *under annealed*: take data at **85 nA**. When the polarization is around 62% take data at 95 nA.
  - If Moller has been done, switch to TOP target when the polarization drops below 60%.
- Take data with the TOP target with **POSITIVE** polarization. Watch the polarization rate of increase. Wait up to 30 min. from the start of polarizing. Follow the guidelines on beam current for the BOTTOM target. When the polarization drops below 60% proceed to anneal.

ANNEAL & Moller (if Moller already done, proceed to Anneal)

Target experts will conduct the anneal. It will be done in part in parallel with the Moller calibration (put empty target in beam to boil LHe off). Anneal will be completed after Moller is done.

- A Moller calibration will start along with the anneal. Put empty target in beam to do the Moller measurement
- Before asking for beam **turn OFF the slow raster** using the module labeled **SR SWITCH** in rack 3HC014 (middle left side) in the electronics room. Tell MCC that the SR is off, they need to know for their FSD limits.
- Keep the beam current **below 200 nA**
- after the Moller **remember to turn the SR back ON!** Tell MCC the SR is back on
- Continue with NH3 production data.

ANNEAL

1. Target experts will conduct the anneal.
2. Put the C target in beam to help boiling off He in the nose. Ask for **150 nA**. Take data until 15 min. after the nose is empty of He.

3. Target experts will finish the anneal.
4. Continue with NH<sub>3</sub> production data.