Short Term Run-Plan

From HallCWiki

Last update 17-May-2024. Send comments and corrections to C. Hyde https://hallcweb.jlab.org /wiki/index.php/Short_Term_Run-Plan

A full updated Run Plan, Feb-May 2024 is available NPS_Completion_2024.pdf (modified 15-Apr-2024). The short-term run plan is outlined below and is regularly updated. The tasks on any given day are at the top of this page (above the line). The tasks below the line are outdated but are kept on this wiki for reference.

- Angle constraints on Spectrometers
  - Minimum angles: HMS 12.37; SHMS: 25.61 (Minimum remote control with Calo @ 3.5 m)
  - Minimum HMS-NPS Separation (remote) 26.20 deg = Minimum HMS-SHMS separation: 42.50 deg;
  - The values below were used until 05-15, 3pm
    - Minimum angles: HMS 12.37; SHMS: 27.50 (Minimum remote control with Calo @ 3.0 m)
    - Minimum HMS-NPS Separation (remote) 26.70 deg = Minimum HMS-SHMS separation: 43.00 deg;
  - this hclog was for the limits at the bgeinning of the data taking (Sept 23):[1] (https://logbooks.jlab.org/entry/4179104)
  - Updated NPS Survey 2-April-2024 says NPS angle = SHMS-16.55deg (not 16.3)
- NPS sweeper setup: Table of corrector currents for different SHMS/NPS angles[2] (https://hallcweb.jlab.org/wiki/images/9/93/NPS_angles_currents.pdf): the nominal sweeper setting is 468A.
- Online NPS run database: https://hallcweb.jlab.org/rcdb (https://hallcweb.jlab.org/rcdb)
- Every day ~10:00 am reboot all 5 NPS VME crates. Follow these instructions NPS DAQ how to (https://hallcweb.jlab.org/wiki/index.php/Hall_C_DAQ#NPS). Make an HCLOG entry.
- **If CODA Data Rate >240 MBy/sec, NPS Calo Anode currents/crystal > 12uA, or CODA Livetime<90% call Josh (910-228-8319)**

Final 5-Pass running

1. Perform a short beam checkout procedure (only do the carlogbooks.jlab.orgbon hole centering check) https://hallcweb.jlab.org/wiki/index.php/Beam_Checkout_Procedures. Make sure that MCC reinitializes the raster with the correct voltages after the pass change (the readout current for the coil should be close to 21.8A and not 17.5 A (4 pass setting)).
2. The running conditions are:
   - The NPS correctors should be off and the sweeper magnet should be on at 468A. Here is a list showing that this is what we did when we ran those settings previously:https://logbooks.jlab.org/entry/4305201
   - The DAQ configuration is coin_sparse. ps=-1 for all but for ps4. Keep the ps4 as low as possible while meeting the daq rates and livetime requirements listed above.
   - The changes in kinematics are in order of decreasing HMS Dipole Momentum, so it is only necessary to ramp to MOL at the beginning. If you have to ramp to MOL, do it slowly in stages of ~20% increments.
   - The L3 Fan frequency has dropped to low values (eg 13Hz) without triggering the alarm. This is problematic. **Please keep checking the target GUI frequently while you are on shift.** https://logbooks.jlab.org/entry/4305193
   - We intend to take all data at a beam current of at least 10 uA. don't go below without alerting the RC.
3. For each kinematic setting, take the following data:
   1. Dummy Target (Start when HMS Dipole is accurate to 1 part per 1000): One 30-minute run. Beam current 20 uA (unless otherwise stated below).
   2. LD2 Target: Three 30-minute runs, Beam current 20 uA (unless otherwise stated below).

3. LH2 Target (Loop 3): Three 30-minute runs, Beam current 30 uA (unless otherwise stated below).

- Kinematic || HMS P || HMS Angle ||SHMS Angle || NPS Angle
- KinC_x50_2 || -6.667 || 12.495 || 36.880 || 20.578
- KinC_x36_3 || -6.117 || 12.495 || 32.260 || 15.961
- KinC_x60_3 || -5.878 || 16.485 || 36.450 || 20.151
- KinC_x50_3 || -5.253 || 16.915 || 31.745 || 15.447
- KinC_x60_4 || -5.038 || 19.350 || 30.375 || 14.075
- KinC_x36_5 || -4.637 || 16.435 || 28.415 || 12.117 **Max LD2 beam = 10uA for CALO**
- KinC_x25_4 || -4.149 || 15.200 || 28.000 || 11.700 **Max LD2 beam = 10uA for CALO**
- KinC_x36_6 || -2.416 || 26.850 || 26.500 || 10.200 **Max LD2 beam = 8uA for CALO**
  - **All settings/targets, adjust beam current to keep event-rate <2.5KHz, DataRate(CODA)<240MBy/sec, and Max Calo Anode current < 12 uA**
    - **Lower beam current to 10uA LH2(Loop3) and 5uA on LD2 as needed. If this is not sufficient, increase ps4 value (preferred is ps4=0).**
    - **If running any target below 10 uA, then take 15 min runs on C 0.5% at 10 uA and at lowest production current.**

1. **KinC_x50_2** HMS 12.493 deg, -6.667 GeV/c, SHMS 36.880 deg (NPS 20.578) Label in CODA GUI "KinC_x50_2"
   1. Dummy Target (Start when HMS Dipole is accurate to 1 part per 1000)
      - One 30-min run. Beam current 5 uA, **ps4=0** Coda Config coin_sparse
   2. LD2 Target
      - Three 30-min runs, Beam current 5 uA, **ps4=1** coin_sparse
   3. LH2 Target (Loop 3)
      - Three 30-min runs, Beam current 10 uA, **ps4=1** coin_sparse
   4. Carbon 0.5% Target
      - One 15-min run, Beam current 10uA **ps4=0** coin_sparse
      - One 15-min run, Beam current 5uA **ps4=0** coin_sparse
2. **KinC_x36_3** HMS 12.495 deg, -6.117 GeV/c, SHMS 32.260 deg (NPS 15.960) Label in CODA GUI "KinC_x36_3"
   1. Dummy Target (Start when HMS Dipole is accurate to 1 part per 1000)
      - One 30-min run. Beam current 5 uA, **ps4=0** Coda Config coin_sparse
   2. LD2 Target
      - Three 30-min runs, Beam current 5 uA, **ps4=1** coin_sparse
   3. LH2 Target (Loop 3)
      - Three 30-min runs, Beam current 10 uA, **ps4=1** coin_sparse
   4. Carbon 0.5% Target
      - One 15-min run, Beam current 10uA **ps4=0** coin_sparse
      - One 15-min run, Beam current 5uA **ps4=0** coin_sparse
   - ↑↑↑↑ **REPEAT THIS SETTING TWICE** ↑↑↑↑
3. **KinC_x60_3** HMS 16.485 deg, -5.878 GeV/c, SHMS 36.450 deg (NPS 20.150) Label in CODA GUI "KinC_x60_3"
   1. Dummy Target (Start when HMS Dipole is accurate to 1 part per 1000)
      - One 30-min run. Beam current 20 uA, **ps4=0** Coda Config coin_sparse
   2. Carbon Optics Target +/-3cm (Optics 2 in gui)
      - **Request MCC turn OFF NPS Sweeper Magnet**
      - **Change HMS collimator to the seive position**
      - One 30-min run. Beam current 30 uA, **ps4=0** Coda Config coin_sparse
      - **Request MCC turn ON NPS Sweeper Magnet**
      - **Change HMS collimator back to large collimator position**
   3. LD2 Target
      - Three 30-min runs, Beam current 20 uA, **ps4=0** coin_sparse *(DONE)*
   4. LH2 Target (Loop 3)
      - Three 30-min runs, Beam current 30 uA, **ps4=0** coin_sparse

1. Lumi 0.5% C
40 μA ✓
30 μA ✓
20 μA ✓
10 μA ✓
5 μA ✓
3 μA
50 μA

4. **KinC_x50_3** HMS 16.915 deg, -5.253 GeV/c, SHMS 31.745 deg (NPS 15.445) Label in CODA GUI "KinC_x50_3"
    1. Dummy Target (Start when HMS Dipole is accurate to 1 part per 1000)
        - One 30-min run. Beam current 20 uA, **ps4=0** Coda Config coin_sparse
    2. LD2 Target
        - Three 30-min runs, Beam current 10 uA, **ps4=0** coin_sparse
    3. LH2 Target (Loop 3)
        - Three 30-min runs, Beam current 25 uA, **ps4=0** coin_sparse
5. **KinC_x60_4** HMS 19.350 deg, -5.038 GeV/c, SHMS 30.375 deg (NPS 14.075) Label in CODA GUI "KinC_x60_4"
    1. Dummy Target (Start when HMS Dipole is accurate to 1 part per 1000)
        - One 30-min run. Beam current 20 uA, **ps4=0** Coda Config coin_sparse
    2. LD2 Target
        - Three 30-min runs, Beam current 20 uA, **ps4=0** coin_sparse
    3. LH2 Target (Loop 3)
        - Three 30-min runs, Beam current 25 uA, **ps4=0** coin_sparse
6. **KinC_x36_5** HMS 16.435 deg, -4.637 GeV/c, SHMS 28.415 deg (NPS 12.117) Label in CODA GUI "KinC_x36_5"
    1. Dummy Target (Start when HMS Dipole is accurate to 1 part per 1000)
        - One 30-min run. Beam current 10 uA, **ps4=0** Coda Config coin_sparse
    2. LD2 Target
        - Three 30-min runs, Beam current 7 uA, **ps4=0** coin_sparse
    3. LH2 Target (Loop 3)
        - Three 30-min runs, Beam current 13 uA, **ps4=0** coin_sparse
    4. Carbon 0.5% Target
        - One 15-min run, Beam current 10uA **ps4=0** coin_sparse
        - One 15-min run, Beam current 7uA **ps4=0** coin_sparse
7. **KinC_x25_4** HMS 15.200 deg,-4.149 GeV/c, SHMS 28.000 deg (NPS 11.700) Label in CODA GUI "KinC_x25_4"
    1. Dummy Target (Start when HMS Dipole is accurate to 1 part per 1000)
        - One 30-min run. Beam current 8 uA, **ps4=0** Coda Config coin_sparse
    2. LD2 Target
        - Three 30-min runs, Beam current 6.5 uA, **ps4=0** coin_sparse
    3. LH2 Target (Loop 3)
        - Three 30-min runs, Beam current 9 uA, **ps4=0** coin_sparse
    4. Carbon 0.5% Target
        - One 15-min run, Beam current 10uA **ps4=0** coin_sparse
        - One 15-min run, Beam current 9uA **ps4=0** coin_sparse
        - One 15-min run, Beam current 6.5uA **ps4=0** coin_sparse
8. **KinC_x36_6** HMS 26.850 deg,-2.416 GeV/c, SHMS 26.500 deg (NPS 10.200) Label in CODA GUI "KinC_x36_6"
    1. Dummy Target (Start when HMS Dipole is accurate to 1 part per 1000)
        - One 30-min run. Beam current 8 uA, **ps4=0** Coda Config coin_sparse
    2. LD2 Target
        - Three 30-min runs, Beam current 7 uA, **ps4=0** coin_sparse
    3. LH2 Target (Loop 3)
        - Three 30-min runs, Beam current 9 uA, **ps4=0** coin_sparse
    4. Carbon 0.5% Target
        - One 15-min run, Beam current 10uA **ps4=0** coin_sparse
        - One 15-min run, Beam current 9uA **ps4=0** coin_sparse
        - One 15-min run, Beam current 7uA **ps4=0** coin_sparse

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The instructions below are for previous shifts and are kept here for the record.

Final 5-Pass running

Short Term Run-Plan

From HallCWiki

Last update: 04-Apr-24. Send comments and corrections to C. Hyde

A full updated Run Plan, Feb-May 2024 is available NPS_Completion_2024.pdf (modified 19-Mar-2024). The short-term run plan is outlined below and is regularly updated. The tasks on any given day are at the top of this page (above the line). The tasks below the line are outdated but are kept on this wiki for reference.

- Angle constraints on Spectrometers [1] (https://logbooks.jlab.org/entry/4179104)
  - Minimum angles: HMS 12.37; SHMS: 27.50 (Minimum remote control with Calo @ 3.0 m)
  - Minimum HMS-NPS Separation (remote) 26.70 deg = Minimum HMS-SHMS separation: 43.00 deg;
- NPS sweeper setup
  - Table of corrector currents for different SHMS/NPS angles: [2] (https://hallcweb.jlab.org/wiki/images/9/93/NPS_angles_currents.pdf): the nominal sweeper setting is 468A.
- Online NPS run database: https://hallcweb.jlab.org/rcdb (https://hallcweb.jlab.org/rcdb)
- **Thursday 04-Apr-2024 KinC_x60_1**
  - Day Shift: Moeller
- Setup KinC_x60_1 (continuation from previous)
  - HMS Angle 39.810 deg. HMS Momentum -1.719 GeV (Electrons) HMS Collimator Large
  - SHMS Angle 30.700 deg (NPS 14.400 deg)
  - NPS Sweep ON 468 Amp. Correctors OFF
  - go_edtm set 40
  - Raster On (2 mm) x (2 mm)

1. KinC_x60_1 Production (Thurs 04-Apr-2024, continue from 1.3.1. LD2 eleventh run of 15).
   - Critical to adjust beam current to keep NPS Calo Anode current Max </= 10 uA, CODA Data rate < 200MBy/sec, and hTRIG1 < 2.5 MHz
   - All ps=-1, except as noted.
   - NPS Calo HV Columns 0 OFF
   1. LH2 Target. Label runs in CODA GUI KinC_x60_1
      1. **Eight 30-min runs , ps4=0, Beam 18 uA** , CODA config coin_sparse
         - **First run of each cycle,** record screenshots of scaler rates, NPS CAL Anode Current, NPS CAL FADC SCALERS, CODA Data Rate, CODA Livetime, and CODA Event Rate.
      2. One 20-min run at 12 uA, coin_sparse, ps4=0
      3. One 30-min run at 9 uA, coin_sparse, ps4=0
      4. One 15-min run at 18 uA (or same as production), **coin** , ps4=2 ?
         - (prescaled as needed to keep CODA Data rate less than 200 MB/s)
         - Record screenshots of CODA Data Rate and LiveTime
   2. Dummy Target
      1. One 10-min run 18 uA (LH2 production current) and ps4=0 , coin_sparse
      2. Two 30-min runs 18 uA (LH2 production current) and ps4=0 , coin_sparse
   3. LD2 Target: Label CODA runs in DAQ GUI "KinC_x60_1"
      1. **Fifteen 30-min runs, 10uA, ps4=0,** CODA config coin_sparse,
         - **First run of each cycle, make screen shots** of CODA Data Rate, Event Rate, Trigger scalers, Calo Anode current and FADC Scalers screens
      2. One 20-min run at 7 uA, coin_sparse, ps4=0
      3. One 30-min run at 5 uA, coin_sparse, ps4=0
      4. One 15-min run at 10 uA (or same as production), **coin** , ps4=2 ? (prescaled as needed to keep CODA Data rate less than 200 MB/s)
2. Repeat KinC_x60_1 cycles until 14-Apr-2024

- **Tue 09-Apr-2024**
  - Hall A comes up at 2-pass Wien Angle will shift by ~15 deg, Polarization for Hall C will decrease by ~3%
  - Setup up for Positron running
    - Switch HMS polarity positive and ramp to P=+1.719 GeV (Just let it settle to set current, no need to fine tune NMR readback)
  - Complete one cycle of KinC_x60_1 Label CODA runs "Positron" in CODA GUI

Require   ~~PST~~ $ps\,4 = 0$

DAQ rate   (hTrig 4) $< 2.5\,kHz$

Data Rate $< 240\,MBy/sec$

NPS anode current $< 11\mu A$

$\boxed{LD_2}$ Record rates at   Beam $= 10\mu A$

                                 Beam $= 5\mu A$

$$\begin{array}{r} 19,350 \\ 26,5 \\ \hline 45,85 \end{array}$$

Short Term Run-Plan

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Last update 14-May-2024. Send comments and corrections to C. Hyde https://hallcweb.jlab.org/wiki/index.php/Short_Term_Run-Plan

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- Angle constraints on Spectrometers [1] (https://logbooks.jlab.org/entry/4179104)
    - Minimum angles: HMS 12.37; SHMS: 27.50 (Minimum remote control with Calo @ 3.0 m)
    - Minimum HMS-NPS Separation (remote) 26.70 deg = Minimum HMS-SHMS separation: 43.00 deg;
    - Updated NPS Survey 2-April-2024 says NPS angle = SHMS-16.55deg (not 16.3)
- NPS sweeper setup
    - Table of corrector currents for different SHMS/NPS angles: [2] (https://hallcweb.jlab.org/wiki/images/9/93/NPS_angles_currents.pdf): the nominal sweeper setting is 468A.
- Online NPS run database: https://hallcweb.jlab.org/rcdb (https://hallcweb.jlab.org/rcdb)
- **Every day ~10:00 am reboot all 5 NPS VME crates**
    - Follow these instructions NPS DAQ how to (https://hallcweb.jlab.org/wiki/index.php/Hall_C_DAQ#NPS), **Make an HCLOG entry.**

- **Tuesday 14-May-2024 @ 7AM Pass Change to 4-Pass, beam back swing**
- **Perform beam checkout, and make sure that MCC reinitializes the raster with the correct voltages after the pass change**

- **If CODA Data Rate >240 MBy/sec, NPS Calo Anode currents/crystal > 12uA, or CODA Livetime<90% call Josh (910-228-8319)**

1. **4-Pass DIS Calibration Runs**
    - NPS Sweep on 468 Amp, Correctors off for all three settings.
    - Each Setting, Three 30 min runs on LH2, One 30 min run on Dummy, One 30 min runs on LD2.
    1. KinC_x50_1 HMS 16.745 deg, -4.726 GeV/c, SHMS 35.285 deg (NPS 18.985) Label in CODA GUI "KinC_x50_1"
        1. Dummy Target (Start when HMS Dipole is accurate to 1 part per 1000)
            - One 30-min run. Beam current 10 uA, **ps4=1** Coda Config coin_sparse
        2. LD2 Target
            - One 30-min runs, Beam current 10 uA, **ps4=1** coin_sparse
            - Expect Event rate 1.8 KHz and Data Rate 75 MBy/sec
        3. LH2 Target (Loop 3)
            - Three 30-min runs, Beam current 20 uA, **ps4=1** coin_sparse
            - Expect Event rate 1.4 KHz and Data Rate 50 MBy/sec
    2. KinC_x36_2 HMS 17.010 deg, -4.042 GeV/c (NMR lock??), SHMS 30.665 deg (NPS 14.365) Label runs KinC_x36_2
        1. Dummy Target (if HMS dipole NMR doesn't lock, start after 20 min of settling)
            - One 30-min run, Beam current 10 uA, **ps4=1** Coda Config coin_sparse
        2. LD2 Target
            - One 30-min runs, Beam current 10 uA, **ps4=1** coin_sparse
            - Expect Event rate 2.4 KHz and Data Rate 115 MBy/sec
        3. LH2 Target (Loop 3)
            - Three 30-min runs, Beam current 20 uA, **ps4=1** coin_sparse
            - Expect Event rate 2.7 KHz and Data Rate 50 MBy/sec
    3. KinC_x60_2 HMS 22.925 deg, -3.803 GeV/c SHMS 32.870 deg (NPS 16.570) Label runs KinC_x60_2
        1. Dummy Target (Start when HMS Dipole is accurate to 1 part per 1000)
            - One 30-min run. Beam current 20 uA, **ps4=0** Coda Config coin_sparse
        2. LD2 Target
            - One 30-min runs, Beam current 20 uA, **ps4=0** coin_sparse
        3. LH2 Target (Loop 3)
            - Three 30-min runs, Beam current 30 uA, **ps4=0** coin_sparse

- **Final 5-Pass running**
    - Kinematic ‖ HMS Momentum ‖ HMS Angle ‖SHMS Angle ‖ NPS Angle
    - KinC_x50_2 ‖ -6.667 ‖ 12.493 ‖ 36.878 ‖ 20.578
    - KinC_x36_3 ‖ -6.117 ‖ 12.373 ‖ 32.261 ‖ 15.961
    - KinC_x60_3 ‖ -5.878 ‖ 16.483 ‖ 36.451 ‖ 20.151
    - KinC_x50_3 ‖ -5.253 ‖ 16.917 ‖ 31.747 ‖ 15.447
    - KinC_x60_4 ‖ -5.038 ‖ 19.348 ‖ 30.375 ‖ 14.075
    - KinC_x36_5 ‖ -4.637 ‖ 16.435 ‖ 28.417 ‖ 12.117
    - KinC_x25_4 ‖ -4.149 ‖ 15.200 ‖ 27.500 ‖ 11.200
    - KinC_x36_6 ‖ -2.416 ‖ 26.849 ‖ 26.400 ‖ 10.100

Short Term Run-Plan

From HallCWiki

Last update: 22-Mar-24. Send comments and corrections to C. Hyde

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- Angle constraints on Spectrometers [1] (https://logbooks.jlab.org/entry/4179104)
    - Minimum angles: HMS 12.37; SHMS: 27.50 (Minimum remote control with Calo at 3.0 m) ;
    - Minimum HMS-NPS Separation (remote) 26.70 deg = Minimum HMS-SHMS separation: 43.00 deg;
- NPS sweeper setup
    - Table of corrector currents for different SHMS/NPS angles: [2] (https://hallcweb.jlab.org/wiki/images/9/93/NPS_angles_currents.pdf): the nominal sweeper setting is 468A.
- Online NPS run database: https://hallcweb.jlab.org/rcdb (https://hallcweb.jlab.org/rcdb)
- **22-Mar-2024 KinC_x50_0b**
    - Every day ~10:00 am reboot all 5 NPS VME crates
        - Follow these instructions NPS DAQ how to (https://hallcweb.jlab.org/wiki/index.php/Hall_C_DAQ#NPS) Make an HCLOG entry.
    - HMS angle = 25.940 deg
    - HMS Momentum = -2.638 (electrons)
    - HMS Collimator LARGE
    - NPS Sweep Magnet ON (468 Amp), MCC tuned to Correctors off 12-Mar-2024
    - NPS Calorimeter at 3.0 m
    - Raster On 2x2 mm^2

1. **KinC_x50_0 Production.** Label CODA runs in DAQ GUI "KinC_x50_0"
    - **SHMS angle = 30.700 deg** (NPS Angle 14.400 deg)
    - Critical to adjust beam current to keep NPS Calo Anode current Max </= 10 uA, CODA Data rate < 200MBy/sec, and hTRIG1 < 2.5 MHz
    - All ps=-1, except as noted.
    - NPS Calo HV Columns 0,1,2 OFF
    1. LH2 Target: Label CODA runs in DAQ GUI "KinC_x50_0"
        1. **Eight 30-min runs , ps4=0, Beam 18 uA** , CODA config coin_sparse
            - **First run of each cycle,** record screenshots of scaler rates, NPS CAL Anode Current, NPS CAL FADC SCALERS, CODA Data Rate, CODA Livetime, and CODA Event Rate.
        2. One 20-min run at 12 uA, coin_sparse, ps4=0
        3. One 30-min run at 9 uA, coin_sparse, ps4=0
        4. One 15-min run at 18 uA (or same as production), **coin** , ps4=2 ?
            - (prescaled as needed to keep CODA Data rate less than 200 MB/s)
            - Record screenshots of CODA Data Rate and LiveTime
    2. Dummy Target
        1. One 10-min run 16 uA (LH2 production current) and ps4=0 , coin_sparse

2. Two 30-min runs 16 uA (LH2 production current) and ps4=0 , coin_sparse
3. LD2 Target: Label CODA runs in DAQ GUI "KinC_x50_0"
   1. **Sixteen 30-min runs, 10uA, ps4=0,** CODA config coin_sparse,
      - **First run of each cycle, make screen shots** of CODA Data Rate, Event Rate, Trigger scalers, Calo Anode current and FADC Scalers screens
   2. One 20-min run at 7 uA, coin_sparse, ps4=0
   3. One 30-min run at 5 uA, coin_sparse, ps4=0
   4. One 15-min run at 10 uA (or same as production), **coin** , ps4=2 ? (prescaled as needed to keep CODA Data rate less than 200 MB/s)
2. Continue cycles of KinC_x50_0 until Monday mid-morning

- ### 25-Mar-2024 KinC_x60_1
  - Every day ~10:00 am reboot all 5 NPS VME crates
    - Follow these instructions NPS DAQ how to (https://hallcweb.jlab.org /wiki/index.php/Hall_C_DAQ#NPS) Make an HCLOG entry.
  - HMS angle = 39.81 deg
  - HMS Momentum = -1.719 (electrons). going down, no need for MOL, but let magnet stabilize > 30 min
  - HMS Collimator LARGE
  - SHMS 30.700 deg (NPS 14.400 deg) note same as previous.
  - NPS Sweep Magnet ON (468 Amp), MCC tuned to Correctors off 12-Mar-2024
  - NPS Calorimeter at 3.0 m
  - Raster On 2x2 mm^2

1. **KinC_x60_1 Production**
   - All ps=-1, except as noted.
   - NPS Calo HV Columns 0,1,2 OFF
   1. LH2 Target: Label CODA runs in DAQ GUI "KinC_x60_1"
      1. **Eight 30-min runs , ps4=0, Beam 18 uA** , CODA config coin_sparse
         - **First run of each cycle,** record screenshots of scaler rates, NPS CAL Anode Current, NPS CAL FADC SCALERS, CODA Data Rate, CODA Livetime, and CODA Event Rate.
      2. One 20-min run at 12 uA, coin_sparse, ps4=0
      3. One 30-min run at 9 uA, coin_sparse, ps4=0
      4. One 15-min run at 18 uA (or same as production), **coin** , ps4=2 ?
         - (prescaled as needed to keep CODA Data rate less than 200 MB/s)
         - Record screenshots of CODA Data Rate and LiveTime
   2. Dummy Target
      1. One 10-min run 16 uA (LH2 production current) and ps4=0 , coin_sparse
      2. Two 30-min runs 16 uA (LH2 production current) and ps4=0 , coin_sparse
   3. LD2 Target: Label CODA runs in DAQ GUI "KinC_x60_1"
      1. **Sixteen 30-min runs, 10uA, ps4=0,** CODA config coin_sparse,
         - **First run of each cycle, make screen shots** of CODA Data Rate, Event Rate, Trigger scalers, Calo Anode current and FADC Scalers screens
      2. One 20-min run at 7 uA, coin_sparse, ps4=0
      3. One 30-min run at 5 uA, coin_sparse, ps4=0
      4. One 15-min run at 10 uA (or same as production), **coin** , ps4=2 ? (prescaled as needed to keep CODA Data rate less than 200 MB/s)
2. Continue cycles of KinC_x60_1 Production

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Short Term Run-Plan

Last update: 21-Mar-24. Send comments and corrections to C. Hyde

A full updated Run Plan, Feb-May 2024 is available NPS_Completion_2024.pdf (modified 19-Mar-2024). The short-term run plan is outlined below and is regularly updated. The tasks on any given day are at the top of this page (above the line). The tasks below the line are outdated but are kept on this wiki for reference.

- Angle constraints on Spectrometers [1] (https://logbooks.jlab.org/entry/4179104)
  - Minimum angles: HMS 12.37; SHMS: 27.50 (Minimum remote control with Calo at 3.0 m) ;
  - Minimum HMS-NPS Separation (remote) 26.70 deg = Minimum HMS-SHMS separation: 43.00 deg;
- NPS sweeper setup
  - Table of corrector currents for different SHMS/NPS angles: [2] (https://hallcweb.jlab.org/wiki/images/9/93/NPS_angles_currents.pdf): the nominal sweeper setting is 468A.
- Online NPS database of run: https://hallcweb.jlab.org/rcdb (https://hallcweb.jlab.org/rcdb)
- **21-Mar-2024 KinC_x50_0b**
  - Every day ~10:00 am reboot all 5 NPS VME crates
    - Follow these instructions NPS DAQ how to (https://hallcweb.jlab.org/wiki/index.php/Hall_C_DAQ#NPS) Make an HCLOG entry.
  - HMS angle = 25.940 deg
  - HMS Momentum = -2.638 (electrons)
  - HMS Collimator LARGE
  - NPS Sweep Magnet ON (468 Amp), MCC tuned to Correctors off 12-Mar-2024
  - HMS Collimator **LARGE**
  - Move NPS Calorimeter to 4.0 m
  - Raster On 2x2 mm^2
  - **Move Calorimeter to 4.00 m**

1. **KinC_x50_0b Production. Label CODA runs KinC_x50_0b**
   - **SHMS angle = 33.910 deg (NPS = 17.610 deg)**
   1. LH2 Target
      1. **Eight 30-min runs , ps4=0, Beam 40 uA** , CODA config coin_sparse
         - **First run of each cycle, record screenshots of scaler rates, NPS CAL Anode Current, NPS CAL FADC SCALERS, CODA Data Rate, CODA Livetime, and CODA Event Rate.**
      2. One 20-min run at 20 uA, coin_sparse, ps4=0
      3. One 30-min run at 10 uA, coin_sparse, ps4=0
      4. One 15-min run at 30 uA (or same as production), **coin** , ps4=0 ?
         - (prescaled as needed to keep CODA Data rate less than 200 MB/s)
         - Record screenshots of CODA Data Rate and LiveTime
   2. Dummy Target
      1. 30 min run 30 uA (LH2 production current) and ps4=0 , coin_sparse
      2. 20 min run 15uA (50% LH2 production current) and ps4=0 factors, coin_sparse
   3. LD2 Target
      1. **Sixteen 30-min runs, 20uA, ps4=0,** CODA config coin_sparse,
         - **First run of each cycle, make screen shots** of CODA Data Rate, Event Rate, Trigger scalers, Calo Anode current and FADC Scalers screens

2. One 20-min run at 10 uA, coin_sparse, ps4=0
3. One 30-min run at 5 uA, coin_sparse, ps4=0
4. One 15-min run at 15 uA (or same as production), **coin** , ps4=1 ? (prescaled as needed to keep CODA Data rate less than 200 MB/s)

2. Continue with KinC_x50_0b cycle until mid-morning 22-Mar-2024, then move calorimeter back to 3.0 m and continue below

- **20-Mar-2024 KinC_x50_0 Return to this mid-morning 22-Mar-2024**
  - HMS angle = 25.940 deg
  - HMS Momentum = -2.638 (electrons)
  - HMS Collimator LARGE
  - NPS Sweep Magnet ON (468 Amp), MCC tuned to Correctors off 12-Mar-2024
  - HMS Collimator **LARGE**
  - Move NPS Calorimeter to 3.0 m
  - Raster On 2x2 mm^2

1. HMS Check Run, Target LD2
   - HMS Q1 Set current since Monday am 18-Mar-2024 is 343.6210 Amp. Correct Set Current is 343.641
   - SHMS 30.300 deg
   - HMS Q1 Set Current 343.6410 Amp.
   - Label CODA run "Optics"
   1. One 20-min run at 6 uA, coin_sparse, ps4=0
2. **KinC_x50_0 Production.** Label CODA runs in DAQ GUI "KinC_x50_0"
   - HMS Q1 Set Current 343.641
   - **SHMS angle = 30.700 deg** (NPS Angle 14.400 deg) **Note small shift in SHMS angle.** This is the original intended angle, and should allow slightly higher beam currents.
   - Critical to adjust beam current to keep NPS Calo Anode current Max </= 10 uA, CODA Data rate < 200MBy/sec, and hTRIG1 < 2.5 MHz
   - All ps=-1, except as noted.
   - NPS Calo HV Columns 0,1,2 OFF
   1. LH2 Target: Label CODA runs in DAQ GUI "KinC_x50_0"
      1. **Eight 30-min runs , ps4=0, Beam 18 uA** , CODA config coin_sparse
         - **First run of each cycle,** record screenshots of scaler rates, NPS CAL Anode Current, NPS CAL FADC SCALERS, CODA Data Rate, CODA Livetime, and CODA Event Rate.
      2. One 20-min run at 12 uA, coin_sparse, ps4=0
      3. One 30-min run at 9 uA, coin_sparse, ps4=0
      4. One 15-min run at 18 uA (or same as production), **coin** , ps4=2 ?
         - (prescaled as needed to keep CODA Data rate less than 200 MB/s)
         - Record screenshots of CODA Data Rate and LiveTime
   2. Dummy Target
      1. 30 min run 16 uA (LH2 production current) and ps4=0 , coin_sparse
      2. 20 min run 8 uA (50% LH2 production current) and ps4=0 factors, coin_sparse
   3. LD2 Target: Label CODA runs in DAQ GUI "KinC_x50_0"
      1. **Sixteen 30-min runs, 10uA, ps4=0,** CODA config coin_sparse,
         - **First run of each cycle, make screen shots** of CODA Data Rate, Event Rate, Trigger scalers, Calo Anode current and FADC Scalers screens
      2. One 20-min run at 7 uA, coin_sparse, ps4=0
      3. One 30-min run at 5 uA, coin_sparse, ps4=0
      4. One 15-min run at 10 uA (or same as production), **coin** , ps4=2 ? (prescaled as needed to keep CODA Data rate less than 200 MB/s)
3. Continue cycles of KinC_x50_0 until Saturday mid-morning

Short Term Run-Plan

From HallCWiki

Last update 17-May-2024. Send comments and corrections to C. Hyde https://hallcweb.jlab.org/wiki/index.php/Short_Term_Run-Plan

A full updated Run Plan, Feb-May 2024 is available NPS_Completion_2024.pdf (modified 15-Apr-2024). The short-term run plan is outlined below and is regularly updated. The tasks on any given day are at the top of this page (above the line). The tasks below the line are outdated but are kept on this wiki for reference.

- Angle constraints on Spectrometers
    - Minimum angles: HMS 12.37; SHMS: 25.61 (Minimum remote control with Calo @ 3.5 m)
    - Minimum HMS-NPS Separation (remote) 26.20 deg = Minimum HMS-SHMS separation: 42.50 deg;
    - The values below were used until 05-15, 3pm
        - Minimum angles: HMS 12.37; SHMS: 27.50 (Minimum remote control with Calo @ 3.0 m)
        - Minimum HMS-NPS Separation (remote) 26.70 deg = Minimum HMS-SHMS separation: 43.00 deg;
    - this hclog was for the limits at the bgeinning of the data taking (Sept 23):[1] (https://logbooks.jlab.org/entry/4179104)
    - Updated NPS Survey 2-April-2024 says NPS angle = SHMS-16.55deg (not 16.3)
- NPS sweeper setup: Table of corrector currents for different SHMS/NPS angles[2] (https://hallcweb.jlab.org/wiki/images/9/93/NPS_angles_currents.pdf): the nominal sweeper setting is 468A.
- Online NPS run database: https://hallcweb.jlab.org/rcdb (https://hallcweb.jlab.org/rcdb)
- Every day ~10:00 am reboot all 5 NPS VME crates. Follow these instructions NPS DAQ how to (https://hallcweb.jlab.org/wiki/index.php/Hall_C_DAQ#NPS). Make an HCLOG entry.
- **If CODA Data Rate >240 MBy/sec, NPS Calo Anode currents/crystal > 12uA, or CODA Livetime<90% call Josh (910-228-8319)**

Final 5-Pass running

1. Perform a short beam checkout procedure (only do the carlogbooks.jlab.orgbon hole centering check) https://hallcweb.jlab.org/wiki/index.php/Beam_Checkout_Procedures. Make sure that MCC reinitializes the raster with the correct voltages after the pass change (the readout current for the coil should be close to 21.8A and not 17.5 A (4 pass setting)).
2. The running conditions are:
    - The NPS correctors should be off and the sweeper magnet should be on at 468A. Here is a list showing that this is what we did when we ran those settings previously:https://logbooks.jlab.org/entry/4305201
    - The DAQ configuration is coin_sparse. ps=-1 for all but for ps4. Keep the ps4 as low as possible while meeting the daq rates and livetime requirements listed above.
    - The changes in kinematics are in order of decreasing HMS Dipole Momentum, so it is only necessary to ramp to MOL at the beginning. If you have to ramp to MOL, do it slowly in stages of ~20% increments.
    - The L3 Fan frequency has dropped to low values (eg 13Hz) without triggering the alarm. This is problematic. **Please keep checking the target GUI frequently while you are on shift.** https://logbooks.jlab.org/entry/4305193
    - We intend to take all data at a beam current of at least 10 uA. don't go below without alerting the RC.
3. For each kinematic setting, take the following data:
    1. Dummy Target (Start when HMS Dipole is accurate to 1 part per 1000): One 30-minute run. Beam current 20 uA (unless otherwise stated below).
    2. LD2 Target: Three 30-minute runs, Beam current 20 uA (unless otherwise stated below).

3. LH2 Target (Loop 3): Three 30-minute runs, Beam current 30 uA (unless otherwise stated below).

- Kinematic || HMS P || HMS Angle ||SHMS Angle || NPS Angle
- KinC_x50_2 || -6.667 || 12.495 || 36.880 || 20.578
- KinC_x36_3 || -6.117 || 12.495 || 32.260 || 15.961
- KinC_x60_3 || -5.878 || 16.485 || 36.450 || 20.151
- KinC_x50_3 || -5.253 || 16.915 || 31.745 || 15.447
- KinC_x60_4 || -5.038 || 19.350 || 30.375 || 14.075
- KinC_x36_5 || -4.637 || 16.435 || 28.415 || 12.117 **Max LD2 beam = 10uA for CALO**
- KinC_x25_4 || -4.149 || 15.200 || 28.000 || 11.700 **Max LD2 beam = 10uA for CALO**
- KinC_x36_6 || -2.416 || 26.850 || 26.500 || 10.200 **Max LD2 beam = 8uA for CALO**
  - **All settings/targets, adjust beam current to keep event-rate <2.5KHz, DataRate(CODA)<240MBy/sec, and Max Calo Anode current < 12 uA**
    - **Lower beam current to 10uA LH2(Loop3) and 5uA on LD2 as needed. If this is not sufficient, increase ps4 value (preferred is ps4=0).**
    - **If running any target below 10 uA, then take 15 min runs on C 0.5% at 10 uA and at lowest production current.**

1. **KinC_x50_2** HMS 12.493 deg, -6.667 GeV/c, SHMS 36.880 deg (NPS 20.578) Label in CODA GUI "KinC_x50_2"
   1. Dummy Target (Start when HMS Dipole is accurate to 1 part per 1000) ✓
      - One 30-min run. Beam current 5 uA, **ps4=0** Coda Config coin_sparse
   2. LD2 Target *(2/3) +1*
      - Three 30-min runs, Beam current 5 uA, **ps4=1** coin_sparse
   3. LH2 Target (Loop 3)
      - Three 30-min runs, Beam current 10 uA, **ps4=1** coin_sparse
2. **KinC_x36_3** HMS 12.495 deg, -6.117 GeV/c, SHMS 32.260 deg (NPS 15.960) Label in CODA GUI "KinC_x36_3"
   1. Dummy Target (Start when HMS Dipole is accurate to 1 part per 1000)
      - Two 30-min run. Beam current ~~15~~ *5* uA, **ps4=0** Coda Config coin_sparse
   2. LD2 Target
      - Six 30-min runs, Beam current ~~15~~ *5* uA, **ps4=~~0~~** *1* coin_sparse
   3. LH2 Target (Loop 3)
      - Six 30-min runs, Beam current ~~30~~ *5.0* uA, **ps4=~~0~~** *1* coin_sparse
3. **KinC_x60_3** HMS 16.485 deg, -5.878 GeV/c, SHMS 36.450 deg (NPS 20.150) Label in CODA GUI "KinC_x60_3"
   1. Dummy Target (Start when HMS Dipole is accurate to 1 part per 1000)
      - One 30-min run. Beam current 20 uA, **ps4=0** Coda Config coin_sparse
   2. LD2 Target
      - Three 30-min runs, Beam current 20 uA, **ps4=0** coin_sparse
   3. LH2 Target (Loop 3)
      - Three 30-min runs, Beam current 30 uA, **ps4=0** coin_sparse
4. **KinC_x50_3** HMS 16.915 deg, -5.253 GeV/c, SHMS 31.745 deg (NPS 15.445) Label in CODA GUI "KinC_x50_3"
   1. Dummy Target (Start when HMS Dipole is accurate to 1 part per 1000)
      - One 30-min run. Beam current 20 uA, **ps4=0** Coda Config coin_sparse
   2. LD2 Target
      - Three 30-min runs, Beam current 10 uA, **ps4=0** coin_sparse
   3. LH2 Target (Loop 3)
      - Three 30-min runs, Beam current 25 uA, **ps4=0** coin_sparse
5. **KinC_x60_4** HMS 19.350 deg, -5.038 GeV/c, SHMS 30.375 deg (NPS 14.075) Label in CODA GUI "KinC_x60_4"
   1. Dummy Target (Start when HMS Dipole is accurate to 1 part per 1000)
      - One 30-min run. Beam current 20 uA, **ps4=0** Coda Config coin_sparse
   2. LD2 Target

- Three 30-min runs, Beam current 20 uA, **ps4=0** coin_sparse
  3. LH2 Target (Loop 3)
     - Three 30-min runs, Beam current 25 uA, **ps4=0** coin_sparse
6. **KinC_x36_5** HMS 16.435 deg, -4.637 GeV/c, SHMS 28.415 deg (NPS 12.117) Label in CODA GUI "KinC_x36_5"
   1. Dummy Target (Start when HMS Dipole is accurate to 1 part per 1000)
      - One 30-min run. Beam current 10 uA, **ps4=0** Coda Config coin_sparse
   2. LD2 Target
      - Three 30-min runs, Beam current 7 uA, **ps4=0** coin_sparse
   3. LH2 Target (Loop 3)
      - Three 30-min runs, Beam current 13 uA, **ps4=0** coin_sparse
   4. Carbon 0.5% Target
      - One 15-min run, Beam current 10uA **ps4=0** coin_sparse
      - One 15-min run, Beam current 7uA **ps4=0** coin_sparse
7. **KinC_x25_4** HMS 15.200 deg,-4.149 GeV/c, SHMS 28.000 deg (NPS 11.700) Label in CODA GUI "KinC_x25_4"
   1. Dummy Target (Start when HMS Dipole is accurate to 1 part per 1000)
      - One 30-min run. Beam current 8 uA, **ps4=0** Coda Config coin_sparse
   2. LD2 Target
      - Three 30-min runs, Beam current 6.5 uA, **ps4=0** coin_sparse
   3. LH2 Target (Loop 3)
      - Three 30-min runs, Beam current 9 uA, **ps4=0** coin_sparse
   4. Carbon 0.5% Target
      - One 15-min run, Beam current 10uA **ps4=0** coin_sparse
      - One 15-min run, Beam current 9uA **ps4=0** coin_sparse
      - One 15-min run, Beam current 6.5uA **ps4=0** coin_sparse
8. **KinC_x36_6** HMS 26.850 deg,-2.416 GeV/c, SHMS 26.500 deg (NPS 10.200) Label in CODA GUI "KinC_x36_6"
   1. Dummy Target (Start when HMS Dipole is accurate to 1 part per 1000)
      - One 30-min run. Beam current 8 uA, **ps4=0** Coda Config coin_sparse
   2. LD2 Target
      - Three 30-min runs, Beam current 7 uA, **ps4=0** coin_sparse
   3. LH2 Target (Loop 3)
      - Three 30-min runs, Beam current 9 uA, **ps4=0** coin_sparse
   4. Carbon 0.5% Target
      - One 15-min run, Beam current 10uA **ps4=0** coin_sparse
      - One 15-min run, Beam current 9uA **ps4=0** coin_sparse
      - One 15-min run, Beam current 7uA **ps4=0** coin_sparse

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The instructions below are for previous shifts and are kept here for the record.

Final 5-Pass running

1. Perform a short beam checkout procedure (only do the carlogbooks.jlab.orgbon hole centering check) https://hallcweb.jlab.org/wiki/index.php/Beam_Checkout_Procedures. Make sure that MCC reinitializes the raster with the correct voltages after the pass change (the readout current for the coil should be close to 21.8A and not 17.5 A (4 pass setting)).
2. The running conditions are:
   - The NPS correctors should be off and the sweeper magnet should be on at 468A. Here is a list showing that this is what we did when we ran those settings previously:https://logbooks.jlab.org/entry/4305201
   - The DAQ configuration is coin_sparse. ps=-1 for all but for ps4. Keep the ps4 as low as possible while meeting the daq rates and livetime requirements listed above.
   - The changes in kinematics are in order of decreasing HMS Dipole Momentum, so it is only necessary to ramp to MOL at the beginning. If you have to ramp to MOL, do it slowly in stages of ~20% increments.

Short Term Run-Plan

This is history!

From HallCWiki

Last update 15-May-2024. Send comments and corrections to C. Hyde https://hallcweb.jlab.org/wiki/index.php/Short_Term_Run-Plan

A full updated Run Plan, Feb-May 2024 is available NPS_Completion_2024.pdf (modified 15-Apr-2024). The short-term run plan is outlined below and is regularly updated. The tasks on any given day are at the top of this page (above the line). The tasks below the line are outdated but are kept on this wiki for reference.

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    - Minimum angles: HMS 12.37; SHMS: 27.50 (Minimum remote control with Calo @ 3.0 m)
    - Minimum HMS-NPS Separation (remote) 26.70 deg = Minimum HMS-SHMS separation: 43.00 deg;
    - Updated NPS Survey 2-April-2024 says NPS angle = SHMS-16.55deg (not 16.3)
- NPS sweeper setup: Table of corrector currents for different SHMS/NPS angles[2] (https://hallcweb.jlab.org/wiki/images/9/93/NPS_angles_currents.pdf): the nominal sweeper setting is 468A.
- Online NPS run database: https://hallcweb.jlab.org/rcdb (https://hallcweb.jlab.org/rcdb)
- Every day ~10:00 am reboot all 5 NPS VME crates. Follow these instructions NPS DAQ how to (https://hallcweb.jlab.org/wiki/index.php/Hall_C_DAQ#NPS). Make an HCLOG entry.
- **If CODA Data Rate >240 MBy/sec, NPS Calo Anode currents/crystal > 12uA, or CODA Livetime<90% call Josh (910-228-8319)**

Final 5-Pass running

1. Perform a short beam checkout procedure (only do the carlogbooks.jlab.orgbon hole centering check) https://hallcweb.jlab.org/wiki/index.php/Beam_Checkout_Procedures. Make sure that MCC reinitializes the raster with the correct voltages after the pass change (the readout current for the coil should be close to 21.8A and not 17.5 A (4 pass setting)).
2. The running conditions are:
    - The NPS correctors should be off and the sweeper magnet should be on at 468A. Here is a list showing that this is what we did when we ran those settings previously:https://logbooks.jlab.org/entry/4305193
    - The DAQ configuration is coin_sparse. ps=-1 for all but for ps4. Keep the ps4 as low as possible while meeting the daq rates and livetime requirements listed above.
    - The changes in kinematics are in order of decreasing HMS Dipole Momentum, so it is only necessary to ramp to MOL at the beginning. If you have to ramp to MOL, do it slowly in stages of ~20% increments.
    - The L3 Fan frequency has dropped to low values (eg 13Hz) without triggering the alarm. This is problematic. **Please keep checking the target GUI frequently while you are on shift.** https://logbooks.jlab.org/entry/4305193
3. For each kinematic setting, take the following data:
    1. Dummy Target (Start when HMS Dipole is accurate to 1 part per 1000): One 30-minute run. Beam current 20 uA.
    2. LD2 Target: Three 30-minute runs, Beam current 20 uA.
    3. LH2 Target (Loop 3): Three 30-minute runs, Beam current 30 uA.

- Kinematic ‖ HMS Momentum ‖ HMS Angle ‖SHMS Angle ‖ NPS Angle
- KinC_x50_2 ‖ -6.667 ‖ 12.493 ‖ 36.878 ‖ 20.578
- KinC_x36_3 ‖ -6.117 ‖ 12.373 ‖ 32.261 ‖ 15.961
- KinC_x60_3 ‖ -5.878 ‖ 16.483 ‖ 36.451 ‖ 20.151
- KinC_x50_3 ‖ -5.253 ‖ 16.917 ‖ 31.747 ‖ 15.447
- KinC_x60_4 ‖ -5.038 ‖ 19.348 ‖ 30.375 ‖ 14.075
- KinC_x36_5 ‖ -4.637 ‖ 16.435 ‖ 28.417 ‖ 12.117
- KinC_x25_4 ‖ -4.149 ‖ 15.200 ‖ 27.500 ‖ 11.200 *SHMS HMS separation here is too small, this needs to be checked/tweaked
- KinC_x36_6 ‖ -2.416 ‖ 26.849 ‖ 26.400 ‖ 10.100

1. **KinC_x50_2** HMS 12.493 deg, -6.667 GeV/c, SHMS 36.878 deg (NPS 20.578) Label in CODA GUI "KinC_x50_2"
    1. Dummy Target (Start when HMS Dipole is accurate to 1 part per 1000)
        - One 30-min run. Beam current 20 uA, **ps4=0** Coda Config coin_sparse
    2. LD2 Target
        - Three 30-min runs, Beam current 20 uA, **ps4=0** coin_sparse
    3. LH2 Target (Loop 3)
        - Three 30-min runs, Beam current 30 uA, **ps4=0** coin_sparse
2. **KinC_x36_3** HMS 12.373 deg, -6.117 GeV/c, SHMS 32.261 deg (NPS 15.961) Label in CODA GUI "KinC_x36_3"
    1. Dummy Target (Start when HMS Dipole is accurate to 1 part per 1000)
        - One 30-min run. Beam current 20 uA, **ps4=0** Coda Config coin_sparse
    2. LD2 Target
        - Three 30-min runs, Beam current 20 uA, **ps4=0** coin_sparse
    3. LH2 Target (Loop 3)
        - Three 30-min runs, Beam current 30 uA, **ps4=0** coin_sparse
3. **KinC_x60_3** HMS 16.483 deg, -5.878 GeV/c, SHMS 36.451 deg (NPS 20.151) Label in CODA GUI "KinC_x60_3"

1. Dummy Target (Start when HMS Dipole is accurate to 1 part per 1000)
   - One 30-min run. Beam current 20 uA, **ps4=0** Coda Config coin_sparse
2. LD2 Target
   - Three 30-min runs, Beam current 20 uA, **ps4=0** coin_sparse
3. LH2 Target (Loop 3)
   - Three 30-min runs, Beam current 30 uA, **ps4=0** coin_sparse

4. **KinC_x50_3 HMS** 16.917 deg, -5.253 GeV/c, SHMS 31.747 deg (NPS 15.447) Label in CODA GUI "KinC_x50_3"
   1. Dummy Target (Start when HMS Dipole is accurate to 1 part per 1000)
      - One 30-min run. Beam current 20 uA, **ps4=0** Coda Config coin_sparse
   2. LD2 Target
      - Three 30-min runs, Beam current 20 uA, **ps4=0** coin_sparse
   3. LH2 Target (Loop 3)
      - Three 30-min runs, Beam current 30 uA, **ps4=0** coin_sparse

The instructions below are for previous shifts and are kept here for the record.

- **Tuesday 14-May-2024 @ 7AM Pass Change to 4-Pass, beam back swing**
- **Perform beam checkout, and make sure that MCC reinitializes the raster with the correct voltages after the pass change**

- **If CODA Data Rate >240 MBy/sec, NPS Calo Anode currents/crystal > 12uA, or CODA Livetime<90% call Josh (910-228-8319)**

1. **4-Pass DIS Calibration Runs**
   - NPS Sweep on 468 Amp, Correctors off for all three settings.
   - Each Setting, Three 30 min runs on LH2, One 30 min run on Dummy, One 30 min runs on LD2.
   1. KinC_x50_1 HMS 16.745 deg, -4.726 GeV/c, SHMS 35.285 deg (NPS 18.985) Label in CODA GUI "KinC_x50_1"
      1. Dummy Target (Start when HMS Dipole is accurate to 1 part per 1000)
         - One 30-min run. Beam current 10 uA, **ps4=1** Coda Config coin_sparse
      2. LD2 Target
         - Three 30-min runs, Beam current 10 uA, **ps4=1** coin_sparse
         - Expect Event rate 1.8 KHz and Data Rate 75 MBy/sec
      3. LH2 Target (Loop 3)
         - Three 30-min runs, Beam current 20 uA, **ps4=1** coin_sparse
         - Expect Event rate 1.4 KHz and Data Rate 50 MBy/sec
   2. KinC_x36_2 HMS 17.010 deg, -4.042 GeV/c (NMR lock??), SHMS 30.665 deg (NPS 14.365) Label runs KinC_x36_2
      1. Dummy Target (if HMS dipole NMR doesn't lock, start after 20 min of settling)
         - One 30-min run, Beam current 10 uA, **ps4=1** Coda Config coin_sparse
      2. LD2 Target
         - Three 30-min runs, Beam current 10 uA, **ps4=1** coin_sparse
         - Expect Event rate 2.4 KHz and Data Rate 115 MBy/sec
      3. LH2 Target (Loop 3)
         - Three 30-min runs, Beam current 20 uA, **ps4=1** coin_sparse
         - Expect Event rate 2.7 KHz and Data Rate 50 MBy/sec
   3. KinC_x60_2 HMS 22.925 deg, -3.803 GeV/c SHMS 32.870 deg (NPS 16.570) Label runs KinC_x60_2
      1. Dummy Target (Start when HMS Dipole is accurate to 1 part per 1000)
         - One 30-min run. Beam current 20 uA, **ps4=0** Coda Config coin_sparse
      2. LD2 Target
         - Three 30-min runs, Beam current 20 uA, **ps4=0** coin_sparse
      3. LH2 Target (Loop 3)
         - Three 30-min runs, Beam current 30 uA, **ps4=0** coin_sparse

Contents

- **Monday 13-May-2024**

Continue taking DIS runs at 3-Pass