

2. KinC_x50_3" Setup.....
 1. Keep HMS at 16.917 deg, -5.253 GeV/c
 2. Move SHMS to 33.179 deg (NPS 16.879 deg) **This is an increase in the SHMS angle, do not rotate forward again until Monday**
 1. **When moving the SHMS, pay special attention to the CAMERA. Do not let encoder rotate SHMS to angles less than 29.74 deg (even when trying to increase the angle. Encoder might be wrong!!!!**
 3. Sweep ON Correctors OFF
3. Production: Label CODA runs **KinC_x50_3"** NPS Sweep ON, Correctors OFF
 1. LH2 Target
 - ✓ 1. **Two** 1 hour runs, ps6=0, 35 uA CODA config coin_sparse, Lower current as necessary to keep CODA Data Rate < 130 MB/s *data rate ~ 30 MB/sec.*
 - ✓ 2. One 20-min run at 20 uA, coin_sparse, ps6=0
 - ✓ 3. One 40-min run at 10 uA, coin_sparse, ps6=0
 - ✓ 4. One 20-min run at 20 uA, coin_sparse, ps4=0
 - ✓ 5. One 15-min run at 40 uA (or same as production), **coin**, ps6=3 (prescaled as needed to keep CODA Data rate less than 130 MB/s)
 2. Dummy Target
 - ✓ 1. 15 min run at 30 uA, coin_sparse, ps6=0
 - ✓ 2. 20 min run at 20 uA, coin_sparse, ps6=0
 3. LD2 Target
 - 1. **Six** 1-hour runs, ps6=0, 15 uA CODA config coin_sparse, lower current as needed to keep Data Rate < 130 MBy/sec (0.072 C each)
 1. First run, make screen shots of CODA Data Rate, Event Rate, Trigger scalers, Calo screens
 2. One 40 min run at 10 uA, coin_sparse, ps6=0
 3. One 40 min run at 5 uA, coin_sparse, ps6=0
 4. One 20-min run at 10 uA, coin_sparse, ps4=0
 5. One 15 min run at 15 uA (or same as production), **coin**, ps6=3 (prescaled as needed to keep CODA Data rate less than 130 MB/s)
 4. Repeat the KinC_x50_3" cycle once. If this does not bring us to Monday, then Repeat another KinC_x50_3" cycle, but in reverse order (LD2, Dummy, LH2) - *a few extra LD2 runs.*
 5. Monday 08:00 Need access to inspect SHMS track and rolling-encoder by techs

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

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- **Thursday 25 January 15:00**

- Call for Escorted access to lock-out NPS Sweep Magnet and Move Calorimeter to 9.5 m
- Setup HMS for 5-pass elastics
 - Ramp magnets down to 0.0
 - Switch polarity to protons (+)
 - go_magnets_HMS +4.0782 to get settings for protons at 4.0782 GeV/c
 - Ramp all to MOL (Q1 in steps of ~ MOL/3)
 - Move HMS to 29.855 deg (after Hall cleared)
 - Move SHMS to 32.88 deg
 - Set EDTM to 5 Hz
 - NPS Sweep OFF

Short Term Run-Plan

From HallCWiki




Last update: 26-Jan-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: 28.30;
 - 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>)
- **Friday 26 January 13:00**
- **KinC_x50_3'**
 - HMS P = -5.253 GeV/c (electrons). Go to MOL then set points
 - HMS theta = 16.917
 - SHMS theta 29.742 deg (NPS 13.442 deg)
 - Charge Goal 1.0 Coul each LH2 and LD2 target at each setting KinC_x50_3' and KinC_x50_3"
 - **During this setup, there was a malfunction of the SHMS encoder. The reading is now correct**
 - **When moving the SHMS, pay special attention to the CAMERA. Do not go to SHMS angles less than 29.74 deg**

1. KinC_x50_3' Production. NPS Sweep ON, Correctors OFF (previous runs). **Label CODA runs KinC_x50_3'**

1. LH2 Target

- ✓ 1. ~~Two~~ 1 hour runs, ps6=0, 35 uA CODA config coin_sparse, Lower current as necessary to keep CODA Data Rate < 130 MB/s
- ✓ 2. One 20-min run at 20 uA, coin_sparse, ps6=0 
- ✓ 3. One 40-min run at 10 uA, coin_sparse, ps6=0 
- ✓ 4. One 20-min run at 20 uA, coin_sparse, ps4=0 
- ✓ 5. One 15-min run at 40 uA (or same as production), **coin**, ps6=3 (prescaled as needed to keep CODA Data rate less than 130 MB/s) ✓

2. Dummy Target

- ✓ 1. 15 min run at 30 uA, coin_sparse, ps6=0
- ✓ 2. 20 min run at 20 uA, coin_sparse, ps6=0

③ LD2 Target

- 1. Six 1-hour runs, ps6=0, 15 uA CODA config coin_sparse, lower current as needed to keep Data Rate < 130 MBy/sec (0.072 C each)
 - 1. First run, make screen shots of CODA Data Rate, Event Rate, Trigger scalers, Calo screens
 - 2. One 40 min run at 10 uA, coin_sparse, ps6=0
 - 3. One 40 min run at 5 uA, coin_sparse, ps6=0
 - 4. One 20-min run at 10 uA, coin_sparse, ps4=0
 - 5. One 15 min run at 15 uA (or same as production), **coin**, ps6=3 (prescaled as needed to keep CODA Data rate less than 130 MB/s)
- 4. Repeat the KinC_x50_3' target Cycle once (before KinC_x50_3", to protect SHMS). This should bring us to Saturday afternoon.

3981
3977 ←

Short Term Run-Plan

From HallCWiki

Last update: 28-Jan-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: 28.30;
 - 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>)
- **Monday 29 January**
 - 08:00 Escorted Access of Techs only to inspect/clean SHMS rails and verify rolling of encoder wheel
- Change to **KinC_x36_5'**
 - HMS angle 16.435 deg
 - HMS Momentum -4.637 GeV/c (electrons)
 - SHMS angle 30.3 deg (NPS 14.00 deg)
 - Charge goal 0.5 Coul each, LH2 and LD2

1. KinC_x36_5' Tuning.

1. Ask MCC for NPS Sweep ON, tune Correctors starting from (0,0)
 1. Record screenshot of Sweep GUI when tuning done.
2. If MCC tunes to non-zero Corrector values then do this Optics study (first time only) **Label CODA runs Optics**

1. Sweep & Correctors ON, HMS Collimator **Sieve** Raster ON
 1. 30 min run: Target Carbon 0.5% , 30 uA, ps4=0, all other ps=-1
 2. 30 min run: Target Optics +/- 8cm , 30 uA, ps4=0, all other ps=-1
2. Sweep & Correctors OFF, HMS Collimator **Sieve** Raster ON
 1. 30 min run: Target Carbon 0.5% , 30 uA, ps4=0, all other ps=-1
 2. 30 min run: Target Optics +/- 8cm , 30 uA, ps4=0, all other ps=-1

2. KinC_x36_5' Production. **Label CODA runs KinC_x36_5'** EDTM 40 Hz, all ps=# except as noted

1. LH2 Target ³⁸
 1. **Two** 1 hour runs, ps6=0, 30 uA CODA config coin_sparse, Lower current as necessary to keep CODA Data Rate < 130 MB/s
 2. One 20-min run at 20 uA, coin_sparse, ps6=0
 3. One 40-min run at 10 uA, coin_sparse, ps6=0
 4. One 20-min run at 20 uA, coin_sparse, ps4=0
 5. One 15-min run at 40 uA (or same as production), **coin** , ps6=3 (prescaled as needed to keep CODA Data rate less than 130 MB/s)

2. Dummy Target

1. 15 min run at 30 uA, coin_sparse, ps6=0 ←
2. 20 min run at 20 uA, coin_sparse, ps6=0

3. LD2 Target

1. **Six** 1-hour runs, ps6=0, 12 uA CODA config coin_sparse, lower current as needed to keep Data Rate < 130 MBy/sec (0.072 C each)
 1. First run, make screen shots of CODA Data Rate, Event Rate, Trigger scalers, Calo screens
 2. One 40 min run at 8 uA, coin_sparse, ps6=0
 3. One 40 min run at 5 uA, coin_sparse, ps6=0
 4. One 20-min run at 8 uA, coin_sparse, ps4=0
 5. One 15 min run at 12 uA (or same as production), **coin** , ps6=3 (prescaled as needed to keep CODA Data rate less than 130 MB/s)

4. Repeat KinC_x36_5' Production cycle of LH2, Dummy, LD2 once.

already done!
+ 20min 20uA ps3=0v ←

already done! (no need to do it)
+ 20min ps3=0 8MAV

Short Term Run-Plan

From HallCWiki

Last update: 23-Jan-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: 28.30;
 - Minimum HMS-NPS Separation (remote) 26.70 deg = Minimum HHS-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>)
 - **Monday 22 January Day Shift**
 - Kinematic KinC_x50_2'
 - SHMS at 35.446 deg (NPS at 19.146 deg).
 - HMS 12.493 deg: **Watch camera carefully, this is close to the minimum allowed angle**
 - HMS Momentum -6.667 GeV/c (electrons). Go to MOL settings first. Ramp Q1 in steps of ~1/3 MOL
 - All CODA ps = -1, except as noted,
 - Charge goal is 0.7 Coul on each target in KinC_x50_2' and again in KinC_x50_2
 - edtm 40hz
1. KinC_x50_2' Production, **Label Run Sheets: KinC_x50_2'**, NPS Sweep Magnet ON (468 Amp, Correctors OFF--see Nov 22 production of KinC_x50_2)
 1. LH2 Target
 1. **Two** 1 hour runs, ps6=0, 40 uA CODA config coin_sparse, Lower Current as necessary to keep CODA Data Rate < 130 MB/s
 2. One 20-min run at 20 uA, coin_sparse, ps6=0
 3. One 40-min run at 10 uA, coin_sparse, ps6=0
 4. One 20-min run at 20 uA, coin_sparse, ps4=0
 5. One 15-min run at 40 uA (or same as production), **coin**, ps6=3 (prescaled as needed to keep CODA Data rate less than 130 MB/s)
 2. Dummy Target
 1. 15 min run at 30 uA, coin_sparse, ps6=0
 2. **Moller run (Monday am only) Resume here after Moller**
 3. 20 min run at 20 uA, coin_sparse, ps6=0
 3. LD2 Target
 1. **Six** 1-hour runs, ps6=0, 12 uA CODA config coin_sparse, lower current as needed to keep Data Rate < 130 MBy/sec (0.072 C each)
 1. First run, make screen shots of CODA Data Rate, Event Rate, Trigger scalers, Calo screens
 2. One 40 min run at 8 uA, coin_sparse, ps6=0 (0.024 C)
 3. One 40 min run at 5 uA, coin_sparse, ps6=0 (0.012 C)
 4. One 20-min run at 10 uA, coin_sparse, ps4=0 (0.012 C)
 5. One 15 min run at 12 uA (or same as production), **coin**, ps6=3 (prescaled as needed to keep CODA Data rate less than 130 MB/s)
 2. KinC_x50_2" Setup. Keep HMS same as above (KinC_x50_2') SHMS at 38.000 deg (NPS at

21.700 deg)

1. NPS Sweep Magnet ON, Correctors Off

3. KinC_x50_2" Production, **Label Run Sheets: KinC_x50_2"** .

1. LH2 Target

1. **Two** 1 hour runs, ps6=0, 40 uA CODA config coin_sparse, Lower current to keep DataRate < 130 MBy/sec
2. One 20-min run at 20 uA, coin_sparse, ps6=0
3. One 40-min run at 10 uA, coin_sparse, ps6=0
4. One 20-min run at 20 uA, coin_sparse, ps4=0
5. One 15-min run at 40 uA (or same as production), **coin** , ps6=2 (prescaled as needed to keep CODA Data rate less than 130 MB/s)

2. Dummy Target

1. 15 min run at 30 uA, coin_sparse, ps6=0
2. 20 min run at 20 uA, coin_sparse, ps6=0

3. LD2 Target

1. **Six** 1-hour runs, ps6=0, 15 uA CODA config coin_sparse, Lower current to keep DataRate < 130 MBy/sec
2. One 20 min run at 10 uA, coin_sparse, ps6=0 (0.024 C)
3. One 40 min run at 5 uA, coin_sparse, ps6=0 (0.012 C)
4. One 20-min run at 10 uA, coin_sparse, ps4=0 (0.012 C) ← (ps4=2)
5. One 15 min run at 15 uA (or same as production), **coin** , ps6=3 (prescaled as needed to keep CODA Data rate less than 130 MB/s)

4. Repeat the KinC_x50_2' + KinC_x50_2" cycle once

5. Tuesday, BCM Calibration when ready (Dave Mack). Do Injector Faraday cup run if Hall B down.

▪ **Switch to KinC_x50_3' Expect this around 03:00 Thursday 25 Jan 2024**

- HMS P = -5.253 GeV/c (electrons). Don't need to go to MOL if coming down from -6.667 GeV
- HMS theta = 16.917 **Move HMS first**
- SHMS theta 29.742 deg (NPS 13.442 deg)
- Charge Goal 1.0 Coul each LH2 and LD2 target at each setting KinC_x50_3' and KinC_x50_3"

1. KinC_x50_3' Production. NPS Sweep ON, Correctors OFF (previous runs). **Label CODA runs KinC_x50_3'**

1. LH2 Target

1. **Two** 1 hour runs, ps6=0, 35 uA CODA config coin_sparse, Lower current as necessary to keep CODA Data Rate < 130 MB/s
2. One 20-min run at 20 uA, coin_sparse, ps6=0
3. One 40-min run at 10 uA, coin_sparse, ps6=0
4. One 20-min run at 20 uA, coin_sparse, ps4=0
5. One 15-min run at 40 uA (or same as production), **coin** , ps6=3 (prescaled as needed to keep CODA Data rate less than 130 MB/s)

2. Dummy Target

1. 15 min run at 30 uA, coin_sparse, ps6=0
2. 20 min run at 20 uA, coin_sparse, ps6=0

3. LD2 Target

1. **Six** 1-hour runs, ps6=0, 15 uA CODA config coin_sparse, lower current as needed to keep Data Rate < 130 MBy/sec (0.072 C each)
 1. First run, make screen shots of CODA Data Rate, Event Rate, Trigger scalers, Calo screens
2. One 40 min run at 10 uA, coin_sparse, ps6=0
3. One 40 min run at 5 uA, coin_sparse, ps6=0
4. One 20-min run at 10 uA, coin_sparse, ps4=0
5. One 15 min run at 15 uA (or same as production), **coin** , ps6=3 (prescaled as needed to keep CODA Data rate less than 130 MB/s)

2. KinC_x50_3" Setup.
 1. Keep HMS at 16.917 deg, -5.253 GeV/c
 2. SHMS 33.179 deg (NPS 16.879 deg)
 3. Sweep ON Correctors OFF
3. Production: Label CODA runs **KinC_x50_3"** NPS Sweep ON, Correctors OFF
 1. LH2 Target
 1. **Two** 1 hour runs, ps6=0, 35 uA CODA config coin_sparse, Lower current as necessary to keep CODA Data Rate < 130 MB/s
 2. One 20-min run at 20 uA, coin_sparse, ps6=0
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 5. One 15-min run at 40 uA (or same as production), **coin** , ps6=3 (prescaled as needed to keep CODA Data rate less than 130 MB/s)
 2. Dummy Target
 1. 15 min run at 30 uA, coin_sparse, ps6=0
 2. 20 min run at 20 uA, coin_sparse, ps6=0
 3. LD2 Target
 1. **Six** 1-hour runs, ps6=0, 15 uA CODA config coin_sparse, lower current as needed to keep Data Rate < 130 MBy/sec (0.072 C each)
 1. First run, make screen shots of CODA Data Rate, Event Rate, Trigger scalers, Calo screens
 2. One 40 min run at 10 uA, coin_sparse, ps6=0
 3. One 40 min run at 5 uA, coin_sparse, ps6=0
 4. One 20-min run at 10 uA, coin_sparse, ps4=0
 5. One 15 min run at 15 uA (or same as production), **coin** , ps6=3 (prescaled as needed to keep CODA Data rate less than 130 MB/s)
4. Repeat the KinC_x50_3' + KinC_x50_3" cycle once
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The instructions below are for previous shifts and are kept here for the record.

- **Sunday 21 January Day Shift**
 - **KinC_x36_5**
 - HMS Angle 16.44 deg
 - HMS Momentum -4.637 GeV/c (electrons)
 - NPS Angle 12.20 deg = SHMS Angle 28.50 deg **Calorimeter Distance 4.0 m**
 - Sweep Magnet on 468 Amp. Correctors: Upstream -19Amp, Downstream 23 Amp
 - HMS Collimator **Large**
 - Raster ON 2mm x 2mm
 - EDTM = 40 Hz
 - **Fully replay each production run at the end of the run:**
 1. Find out how many segments exist for run RRRR:
 1. go_analysis_nps
 2. ls raw/nps_coin_RRRR.*
 2. For each segment SSSS, open a terminal on cdaq13, go_analysis_nps, run the following command: hcana -b -q SCRIPTS/NPS/replay_production_coin_NPS_HMS.C(RRRR,-1,0,SSSS,SSSS)
 3. Post a logentry after finished replaying run RRRR
1. Final Production target cycle **Label Run Sheets: KinC_x36_5**

Short Term Run-Plan - HallCWiki

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- Angle constraints on Spectrometers [1]
 - Minimum angles: HMS 12.37; SHMS: 28.30;
 - Minimum HMS-NPS Separation (remote) 26.70 deg = Minimum HHS-SHMS separation: 43.00 deg;
- [NPS sweeper setup](#)
 - Table of corrector currents for different SHMS/NPS angles: [2]; the nominal sweeper setting is 468A.
- [Online NPS database of run: https://hallcweb.jlab.org/rcdb](https://hallcweb.jlab.org/rcdb)

• Thursday 25 January 15:00

- Call for Escorted access to lock-out NPS Sweep Magnet and Move Calorimeter to 9.5 m
 - Setup HMS for 5-pass elastics
 - Ramp magnets down to 0.0
 - Switch polarity to protons (+)
 - go_magnets_HMS +4.0782 to get settings for protons at 4.0782 GeV/c
 - Ramp all to MOL (Q1 in steps of ~ MOL/3)
 - Move HMS to 29.855 deg (after Hall cleared)
 - Move SHMS to 32.88 deg
 - Set EDTM to 5 Hz
 - NPS Sweep OFF
1. Elastic Production on LH2 Target CODA config **COIN**. ps5=0 all others -1. Label CODA runs **5Pass_Elastic**
 1. Fully replay each elastic runs at the end of the run:
 1. Find out how many segments exist for run RRRR:
 1. go_analysis_nps
 2. ls raw/nps_coin_RRRR.*
 2. For each segment SSSS, open a terminal on cdaq13, go_analysis_nps, run the following command: hcana .x 'SCRIPTS/NPS/replay_production_coin_NPS_HMS.C(RRRR,-1,0,SSSS,SSSS)'
 3. SHMS = 32.88 deg (NPS 16.58 deg)
 1. One 1-hour run on LH2 at 40 uA, ps5=0
 4. SHMS = 31.845 deg (NPS 15.545 deg)
 1. One 1-hour run on LH2 at 40 uA, ps5=0
 5. **SHMS = 31.058 deg (NPS 14.758 deg)** [Corrected from earlier: SHMS = 30.828 deg (NPS 14.528 deg)]
 1. One 1-hour run on LH2 at 40 uA, ps5=0
 2. **After first cycle, new cycle with corrected SHMS angles to fully illuminate Calo**
 1. SHMS = 33.47 deg (NPS 17.17 deg)
 1. One 1-hour run on LH2 at 40 uA, ps5=0
 2. SHMS = 32.264 deg (NPS 15.964 deg)
 1. One 1-hour run on LH2 at 40 uA, ps5=0
 3. SHMS = 31.058 deg (NPS 14.758 deg)
 1. One 1-hour run on LH2 at 40 uA, ps5=0
 4. Repeat the cycle with the new 3 angles until Friday ~10.00 am
 5. Analyzing team may adjust HV or Gain factors.

• Switch to KinC_x50_3' Expect this around 11:00 Friday 26 Jan 2024

- HMS P = -5.253 GeV/c (electrons). Go to MOL then set points
- HMS theta = 16.917
- SHMS theta 29.742 deg (NPS 13.442 deg)
- Charge Goal 1.0 Coul each LH2 and LD2 target at each setting KinC_x50_3' and KinC_x50_3"

1. KinC_x50_3' Production. NPS Sweep ON, Correctors OFF (previous runs). Label CODA runs KinC_x50_3'

set
EDTM = ~~40 Hz~~
40 Hz

1. LH2 Target
 1. **Two** 1 hour runs, ps6=0, 35 uA CODA config coin_sparse, Lower current as necessary to keep CODA Data Rate < 130 MB/s
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 3. One 40-min run at 10 uA, coin_sparse, ps6=0
 4. One 20-min run at 20 uA, coin_sparse, ps4=0
 5. One 15-min run at 40 uA (or same as production), **coin** , ps6=3 (prescaled as needed to keep CODA Data rate less than 130 MB/s)
2. Dummy Target
 1. 15 min run at 30 uA, coin_sparse, ps6=0
 2. 20 min run at 20 uA, coin_sparse, ps6=0
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 5. One 15 min run at 15 uA (or same as production), **coin** , ps6=3 (prescaled as needed to keep CODA Data rate less than 130 MB/s)
4. Repeat the KinC_x50_3' + KinC_x50_3" cycle once

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

- **Monday 22 January Day Shift**
- Kinematic KinC_x50_2'
 - SHMS at 35.446 deg (NPS at 19.146 deg).
 - HMS 12.493 deg: **Watch camera carefully, this is close to the minimum allowed angle**
 - HMS Momentum -6.667 GeV/c (electrons). Go to MOL settings first. Ramp Q1 in steps of ~1/3 MOL
 - All CODA ps = -1, except as noted,

Short Term Run-Plan

From HallCWiki

Last update: 23-Jan-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: 28.30;
 - Minimum HMS-NPS Separation (remote) 26.70 deg = Minimum HHS-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>)
- **Monday 22 January Day Shift**
- Kinematic KinC_x50_2'
 - SHMS at 35.446 deg (NPS at 19.146 deg).
 - HMS 12.493 deg: **Watch camera carefully, this is close to the minimum allowed angle**
 - HMS Momentum -6.667 GeV/c (electrons). Go to MOL settings first. Ramp Q1 in steps of ~1/3 MOL
 - All CODA ps = -1, except as noted,
 - Charge goal is 0.7 Coul on each target in KinC_x50_2' and again in KinC_x50_2
 - edtm 40hz

1. KinC_x50_2' Production, **Label Run Sheets: KinC_x50_2'**, NPS Sweep Magnet ON (468 Amp, Correctors OFF--see Nov 22 production of KinC_x50_2)

→ 1. LH2 Target

- START HERE AFTER FULL CYCLE
1. **Two** 1 hour runs, ps6=0, 40 uA CODA config coin_sparse, Lower Current as necessary to keep CODA Data Rate < 130 MB/s
 2. One 20-min run at 20 uA, coin_sparse, ps6=0
 3. One 40-min run at 10 uA, coin_sparse, ps6=0
 4. One 20-min run at 20 uA, coin_sparse, ps4=0
 5. One 15-min run at 40 uA (or same as production), **coin**, ps6=3 (prescaled as needed to keep CODA Data rate less than 130 MB/s)

→ 2. Dummy Target

1. 15 min run at 30 uA, coin_sparse, ps6=0

SKIP this → 2. **Moller run (Monday am only) Resume here after Moller**

NO MOLLER

→ 3. LD2 Target

- OWL starts from here (for 01-24-24)
1. **Six** 1-hour runs, ps6=0, 12 uA CODA config coin_sparse, lower current as needed to keep Data Rate < 130 MBy/sec (0.072 C each)
 1. First run, make screen shots of CODA Data Rate, Event Rate, Trigger scalers, Calo screens
 2. One 40 min run at 8 uA, coin_sparse, ps6=0 (0.024 C)
 3. One 40 min run at 5 uA, coin_sparse, ps6=0 (0.012 C)
 4. One 20-min run at 10 uA, coin_sparse, ps4=0 (0.012 C)
 5. One 15 min run at 12 uA (or same as production), **coin**, ps6=3 (prescaled as needed to keep CODA Data rate less than 130 MB/s)

2. KinC_x50_2" Setup. Keep HMS same as above (KinC_x50_2') SHMS at 38.000 deg (NPS at 21.700 deg)

1. NPS Sweep Magnet ON, Correctors Off

3. KinC_x50_2" Production, **Label Run Sheets: KinC_x50_2"**

1. LH2 Target

1. **Two** 1 hour runs, ps6=0, 40 uA CODA config coin_sparse, Lower current to keep DataRate < 130 MBy/sec
2. One 20-min run at 20 uA, coin_sparse, ps6=0
3. One 40-min run at 10 uA, coin_sparse, ps6=0
4. One 20-min run at 20 uA, coin_sparse, ps4=0
5. One 15-min run at 40 uA (or same as production), **coin**, ps6=2 (prescaled as needed to keep CODA Data rate less than 130 MB/s)

2. Dummy Target

1. 15 min run at 30 uA, coin_sparse, ps6=0

2. 20 min run at 20 uA, coin_sparse, ps6=0
3. LD2 Target
 1. **Five** 1-hour runs, ps6=0, 15 uA CODA config coin_sparse, Lower current to keep DataRate < 130 MBy/sec
 2. One 20 min run at 10 uA, coin_sparse, ps6=0 (0.024 C)
 3. One 40 min run at 5 uA, coin_sparse, ps6=0 (0.012 C)
 4. One 20-min run at 10 uA, coin_sparse, ps4=0 (0.012 C)
 5. One 15 min run at 15 uA (or same as production), **coin**, ps6=2 (prescaled as needed to keep CODA Data rate less than 130 MB/s)
4. Repeat the KinC_x50_2' + KinC_x50_2" cycle once
5. Tuesday, BCM Calibration when ready (Dave Mack). Do Injector Faraday cup run if Hall B down.

▪ **Switch to KinC_x50_3' Expect this around 09:00 Wed 24 Jan 2024**

- HMS P = -5.253 GeV/c (electrons). Don't need to go to MOL if coming down from -6.667 GeV
- HMS theta = 16.917 **Move HMS first**
- SHMS theta ~~30.315~~ deg (NPS ~~14.015~~ deg) *New Angle*
- Charge Goal 1.0 Coul each LH2 and LD2 target at each setting KinC_x50_3' and KinC_x50_3"

1. KinC_x50_3' Production. NPS Sweep ON, Correctors OFF (previous runs). **Label CODA runs KinC_x50_3'**
 1. LH2 Target
 1. **Two** 1 hour runs, ps6=0, 35 uA CODA config coin_sparse, Lower current as necessary to keep CODA Data Rate < 130 MB/s
 2. One 20-min run at 20 uA, coin_sparse, ps6=0
 3. One 40-min run at 10 uA, coin_sparse, ps6=0
 4. One 20-min run at 20 uA, coin_sparse, ps4=0
 5. One 15-min run at 40 uA (or same as production), **coin**, ps6=3 (prescaled as needed to keep CODA Data rate less than 130 MB/s)
 2. Dummy Target
 1. 15 min run at 30 uA, coin_sparse, ps6=0
 2. 20 min run at 20 uA, coin_sparse, ps6=0
 3. LD2 Target
 1. **Six** 1-hour runs, ps6=0, 15 uA CODA config coin_sparse, lower current as needed to keep Data Rate < 130 MBy/sec (0.072 C each)
 1. First run, make screen shots of CODA Data Rate, Event Rate, Trigger scalers, Calo screens
 2. One 40 min run at 10 uA, coin_sparse, ps6=0
 3. One 40 min run at 5 uA, coin_sparse, ps6=0
 4. One 20-min run at 10 uA, coin_sparse, ps4=0
 5. One 15 min run at 15 uA (or same as production), **coin**, ps6=3 (prescaled as needed to keep CODA Data rate less than 130 MB/s)
2. KinC_x50_3" Setup.
 1. Keep HMS at 16.917 deg, -5.253 GeV/c
 2. SHMS 33.179 deg (NPS 16.879 deg)
 3. Sweep ON Correctors OFF
3. Production: Label CODA runs **KinC_x50_3"** NPS Sweep ON, Correctors OFF
 1. LH2 Target
 1. **Two** 1 hour runs, ps6=0, 35 uA CODA config coin_sparse, Lower current as necessary to keep CODA Data Rate < 130 MB/s
 2. One 20-min run at 20 uA, coin_sparse, ps6=0
 3. One 40-min run at 10 uA, coin_sparse, ps6=0
 4. One 20-min run at 20 uA, coin_sparse, ps4=0
 5. One 15-min run at 40 uA (or same as production), **coin**, ps6=3 (prescaled as needed to keep CODA Data rate less than 130 MB/s)
 2. Dummy Target
 1. 15 min run at 30 uA, coin_sparse, ps6=0
 2. 20 min run at 20 uA, coin_sparse, ps6=0
 3. LD2 Target
 1. **Six** 1-hour runs, ps6=0, 15 uA CODA config coin_sparse, lower current as needed to keep Data Rate < 130 MBy/sec (0.072 C each)
 1. First run, make screen shots of CODA Data Rate, Event Rate, Trigger scalers, Calo screens
 2. One 40 min run at 10 uA, coin_sparse, ps6=0
 3. One 40 min run at 5 uA, coin_sparse, ps6=0
 4. One 20-min run at 10 uA, coin_sparse, ps4=0
 5. One 15 min run at 15 uA (or same as production), **coin**, ps6=3 (prescaled as needed to keep CODA Data rate less than 130 MB/s)
4. Repeat the KinC_x50_3' + KinC_x50_3" cycle once

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▪ Monday 22 January Day Shift

- Kinematic KinC_x50_2'
 - SHMS at 35.446 deg (NPS at 19.146 deg).
 - HMS 12.493 deg: **Watch camera carefully, this is close to the minimum allowed angle**
 - HMS Momentum -6.667 GeV/c (electrons). Go to MOL settings first. Ramp Q1 in steps of ~1/3 MOL
 - All CODA ps = -1, except as noted,
 - Charge goal is 0.7 Coul on each target in KinC_x50_2' and again in KinC_x50_2
 - edtm 40hz

1. KinC_x50_2' Production, **Label Run Sheets: KinC_x50_2'**, NPS Sweep Magnet ON (468 Amp, Correctors OFF--see Nov 22 production of KinC_x50_2)

1. LH2 Target

1. **Two** 1 hour runs, ps6=0, 40 uA CODA config coin_sparse, Lower Current as necessary to keep CODA Data Rate < 130 MB/s
2. One 20-min run at 20 uA, coin_sparse, ps6=0
3. One 40-min run at 10 uA, coin_sparse, ps6=0
4. One 20-min run at 20 uA, coin_sparse, ps4=0
5. One 15-min run at 40 uA (or same as production), **coin**, ps6=3 (prescaled as needed to keep CODA Data rate less than 130 MB/s)

2. Dummy Target

1. 15 min run at 30 uA, coin_sparse, ps6=0
2. **Moller run (Monday am only) Resume here after Moller**
- ✓ 3. 20 min run at 20 uA, coin_sparse, ps6=0

3. LD2 Target

- ✓✓✓ 1. **Six** 1-hour runs, ps6=0, 12 uA CODA config coin_sparse, lower current as needed to keep Data Rate < 130 MBy/sec (0.072 C each)
 1. First run, make screen shots of CODA Data Rate, Event Rate, Trigger scalers, Calo screens
- ✓ 2. One 40 min run at 8 uA, coin_sparse, ps6=0 (0.024 C)
- ✓ 3. One 40 min run at 5 uA, coin_sparse, ps6=0 (0.012 C)
- 4. One 20-min run at 10 uA, coin_sparse, ps4=0 (0.012 C)
- 5. One 15 min run at 12 uA (or same as production), **coin**, ps6=3 (prescaled as needed to keep CODA Data rate less than 130 MB/s)

2. KinC_x50_2" Setup. Keep HMS same as above (KinC_x50_2') SHMS at 38.000 deg (NPS at 21.700 deg)

1. NPS Sweep Magnet ON, Correctors Off

3. KinC_x50_2" Production, **Label Run Sheets: KinC_x50_2"**.

1. LH2 Target

1. **Two** 1 hour runs, ps6=0, 40 uA CODA config coin_sparse, Lower current to keep DataRate < 130 MBy/sec
2. One 20-min run at 20 uA, coin_sparse, ps6=0
3. One 40-min run at 10 uA, coin_sparse, ps6=0
4. One 20-min run at 20 uA, coin_sparse, ps4=0
5. One 15-min run at 40 uA (or same as production), **coin**, ps6=2 (prescaled as needed to keep CODA Data rate less than 130 MB/s)

2. Dummy Target

1. 15 min run at 30 uA, coin_sparse, ps6=0

2. 20 min run at 20 uA, coin_sparse, ps6=0
3. LD2 Target
 1. **Five** 1-hour runs, ps6=0, 15 uA CODA config coin_sparse, Lower current to keep DataRate < 130 MBy/sec
 2. One 20 min run at 10 uA, coin_sparse, ps6=0 (0.024 C)
 3. One 40 min run at 5 uA, coin_sparse, ps6=0 (0.012 C)
 4. One 20-min run at 10 uA, coin_sparse, ps4=0 (0.012 C)
 5. One 15 min run at 15 uA (or same as production), **coin** , ps6=2 (prescaled as needed to keep CODA Data rate less than 130 MB/s)
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5. Tuesday, BCM Calibration when ready (Dave Mack). Do Injector Faraday cup run if Hall B down.
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 - HMS theta = 16.917 **Move HMS first**
 - SHMS theta 30.315 deg (NPS 14.015 deg)
 - Charge Goal 1.0 Coul each LH2 and LD2 target at each setting KinC_x50_3' and KinC_x50_3"
1. KinC_x50_3' Production. NPS Sweep ON, Correctors OFF (previous runs). **Label CODA runs KinC_x50_3'**
 1. LH2 Target
 1. **Two** 1 hour runs, ps6=0, 35 uA CODA config coin_sparse, Lower current as necessary to keep CODA Data Rate < 130 MB/s
 2. One 20-min run at 20 uA, coin_sparse, ps6=0
 3. One 40-min run at 10 uA, coin_sparse, ps6=0
 4. One 20-min run at 20 uA, coin_sparse, ps4=0
 5. One 15-min run at 40 uA (or same as production), **coin** , ps6=3 (prescaled as needed to keep CODA Data rate less than 130 MB/s)
 2. Dummy Target
 1. 15 min run at 30 uA, coin_sparse, ps6=0
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 1. First run, make screen shots of CODA Data Rate, Event Rate, Trigger scalers, Calo screens
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 3. One 40 min run at 5 uA, coin_sparse, ps6=0
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2. KinC_x50_3" Setup.
 1. Keep HMS at 16.917 deg, -5.253 GeV/c
 2. SHMS 33.179 deg (NPS 16.879 deg)
 3. Sweep ON Correctors OFF
3. Production: Label CODA runs **KinC_x50_3"** NPS Sweep ON, Correctors OFF
 1. LH2 Target
 1. **Two** 1 hour runs, ps6=0, 35 uA CODA config coin_sparse, Lower current as necessary to keep CODA Data Rate < 130 MB/s
 2. One 20-min run at 20 uA, coin_sparse, ps6=0
 3. One 40-min run at 10 uA, coin_sparse, ps6=0
 4. One 20-min run at 20 uA, coin_sparse, ps4=0
 5. One 15-min run at 40 uA (or same as production), **coin** , ps6=3 (prescaled as needed to keep CODA Data rate less than 130 MB/s)
 2. Dummy Target
 1. 15 min run at 30 uA, coin_sparse, ps6=0
 2. 20 min run at 20 uA, coin_sparse, ps6=0
 3. LD2 Target
 1. **Six** 1-hour runs, ps6=0, 15 uA CODA config coin_sparse, lower current as needed to keep Data Rate < 130 MBy/sec (0.072 C each)
 1. First run, make screen shots of CODA Data Rate, Event Rate, Trigger scalers, Calo screens
 2. One 40 min run at 10 uA, coin_sparse, ps6=0
 3. One 40 min run at 5 uA, coin_sparse, ps6=0
 4. One 20-min run at 10 uA, coin_sparse, ps4=0
 5. One 15 min run at 15 uA (or same as production), **coin** , ps6=3 (prescaled as needed to keep CODA Data rate less than 130 MB/s)
4. Repeat the KinC_x50_3' + KinC_x50_3" cycle once

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 - 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>)
- **Sunday 21 January Day Shift**
 - **KinC_x36_5**
 - HMS Angle 16.44 deg
 - HMS Momentum -4.637 GeV/c (electrons)
 - NPS Angle 12.20 deg = SHMS Angle 28.50 deg **Calorimeter Distance 4.0 m**
 - Sweep Magnet on 468 Amp. Correctors: Upstream -19Amp, Downstream 23 Amp
 - HMS Collimator **Large**
 - Raster ON 2mm x 2mm
 - EDTM = 40 Hz
 - **Fully replay each production run at the end of the run:**
 1. Find out how many segments exist for run RRRR:
 1. `go_analysis_nps`
 2. `ls raw/nps_coin RRRR.*`
 2. For each segment SSSS, open a terminal on cdaq13, `go_analysis_nps`, run the following command: `hcana -b -q SCRIPTS/NPS/replay_production_coin_NPS_HMS.C(RRRR,-1,0,SSSS,SSSS)`
 3. Post a logentry after finished replaying run RRRR
- 1. Final Production target cycle **Label Run Sheets: KinC_x36_5**
 1. LH2 Target
 1. done
 2. Dummy, in progress
 1. 15 min run at 30 uA, `coin_sparse`, `ps6=0`
 2. 15 min run at 20 uA, `coin_sparse`, `ps6=0`
 3. LD2 Target
 1. **Seven** 1-hour runs 10 uA, `coin_sparse`, `ps6=0` Lower Current as necessary to keep CODA Data Rate < 130 MB/s
 1. First run, make CODA / scalers / Calo / NDX screenshots
 2. One 20-min run at 7 uA, `coin_sparse`, `ps6=0`,
 3. One 40-min run at 5 uA, `coin_sparse`, `ps6=0`,
 4. One 40-min run at 5 uA, `coin_sparse`, `ps4=0`
 5. One 10-min run at 10 uA (same as LD2 production), **coin**, `ps6=2`, prescaled as needed to keep CODA Data rate below 100 MB/s.
- Switch to Kinematic KinC_x50_2'
 - SHMS at 35.446 deg (NPS at 19.146 deg). **Move SHMS first**
 - HMS 12.493 deg: **Watch camera carefully, this is close to the minimum allowed angle**
 - HMS Momentum -6.667 GeV/c (electrons). Go to MOL settings first. Ramp Q1 in steps of ~1/3 MOL

- All CODA ps = -1, except as noted,
- Charge goal is 0.7 Coul on each target in KinC_x50_2' and again in KinC_x50_2
- edtm 40hz

- start here*
- #1. KinC_x50_2' Production, **Label Run Sheets: KinC_x50_2'**, NPS Sweep Magnet ON (468 Amp, Correctors OFF--see Nov 22 production of KinC_x50_2)
1. LH2 Target
 1. **Two** 1 hour runs, ps6=0, ^{35 uA} 40 uA CODA config coin_sparse, Lower Current as necessary to keep CODA Data Rate < 130 MB/s
 2. One 20-min run at 20 uA, coin_sparse, ps6=0
 3. One 40-min run at 10 uA, coin_sparse, ps6=0
 4. One 20-min run at 20 uA, coin_sparse, ps4=0
 5. One 15-min run at 40 uA (or same as production), **coin**, ps6=^{2.3} (prescaled as needed to keep CODA Data rate less than 130 MB/s) *~ 156 KB/s*
 2. Dummy Target
 - 1. 15 min run at 30 uA, coin_sparse, ps6=0
 2. 20 min run at 20 uA, coin_sparse, ps6=0
 3. LD2 Target
 1. **Four** 1-hour runs, ps6=0, 20 uA CODA config coin_sparse, lower current as needed to keep Data Rate < 130 MBy/sec (0.072 C each)
 1. First run, make screen shots of CODA Data Rate, Event Rate, Trigger scalers, Calo screens
 2. One 20 min run at 10 uA, coin_sparse, ps6=0 (0.024 C)
 3. One 40 min run at 5 uA, coin_sparse, ps6=0 (0.012 C)
 4. One 20-min run at 10 uA, coin_sparse, ps4=0 (0.012 C)
 5. One 15 min run at 20 uA (or same as production), **coin**, ps6=0 (prescaled as needed to keep CODA Data rate less than 130 MB/s)
 4. **Repeat KinC_x50_2' Dummy + LD2 until 8:00 am Monday 22 January**

- Monday: Moller? *8:30 AM w/ Dave G.*

1. KinC_x50_2" Setup. Keep HMS same as above (KinC_x50_2') SHMS at 38.310 deg (NPS at 22.010 deg)
 1. NPS Sweep Magnet ON, Correctors: ask MCC to try with correctors OFF. If this is not acceptable, then recommended settings are Upstream 87 Amp, downstream 0 Amp
2. KinC_x50_2" Production, **Label Run Sheets: KinC_x50_2"** .
 1. LH2 Target
 1. **Two** 1 hour runs, ps6=0, 40 uA CODA config coin_sparse, check that Data Rate < 130 MBy/sec (0.144 C each)
 2. One 20-min run at 20 uA, coin_sparse, ps6=0
 3. One 40-min run at 10 uA, coin_sparse, ps6=0
 4. One 20-min run at 20 uA, coin_sparse, ps4=0
 5. One 15-min run at 40 uA (or same as production), **coin**, ps6=0 (prescaled as needed to keep CODA Data rate less than 130 MB/s)
 2. Dummy Target
 1. 15 min run at 30 uA, coin_sparse, ps6=0
 2. 20 min run at 20 uA, coin_sparse, ps6=0
 3. LD2 Target
 1. **Four** 1-hour runs, ps6=0, 20 uA CODA config coin_sparse, check that Data Rate < 130 MBy/sec (0.072 C each)
 2. One 20 min run at 10 uA, coin_sparse, ps6=0 (0.024 C)
 3. One 40 min run at 5 uA, coin_sparse, ps6=0 (0.012 C)
 4. One 20-min run at 10 uA, coin_sparse, ps4=0 (0.012 C)
 5. One 15 min run at 20 uA (or same as production), **coin**, ps6=0 (prescaled as needed to keep CODA Data rate less than 130 MB/s)
3. Repeat the KinC_x50_2' + KinC_x50_2" cycle until charge goals reached

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From HallCWiki

last update: 14-Dec-23. Send comments and corrections to C. Hyde

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- Online NPS database of run: <https://hallcweb.jlab.org/rcdb> (<https://hallcweb.jlab.org/rcdb>)
- **Thursday 14 December**
 - **KinC_x60_2 and KinC_x60_2'**
 - HMS Angle 22.93 deg
 - HMS Momentum -3.803 GeV/c (electrons)
 - Sweep Magnet on 468 Amp. Correctors (0,0)
 - HMS Collimator **Sieve** Raster ON

1. SMHS Angle 32.87 deg Production Cycle. Raster ON. Sweep ON. Label CODA run KinC_x60_2

1. LH2 Target (All ps=-1 except single trigger noted. Never prescale ps6, except as noted)
 1. Two 1-hour runs 30 uA, coin_sparse, ps6=0 . . .
 2. One 20-min run at 20 uA, coin_sparse, ps6=0 .
 3. One 20-min run at 10 uA, coin_sparse, ps6=0 .
 4. One 40-min run at 20 uA, coin_sparse, ps4=0
 5. One 10-min run at 30 uA, **coin** , ps6=0 (prescaled as needed to keep CODA Data rate less than 150 MB/s)
2. Dummy Target
 1. 15 min run at 30 uA, coin_sparse, ps6=0 .
 2. 15 min run at 15 uA, coin_sparse, ps6=0 .
3. LD2 Target
 1. **Four** 1-hour runs 20 uA, coin_sparse, ps6=0
 2. One 20-min run at 15 uA, coin_sparse, ps6=0,
 3. One 20-min run at 10 uA, coin_sparse, ps6=0,
 4. One 40-min run at 10 uA, coin_sparse, ps4=0
 5. One 10-min run at 20 uA, **coin** , ps6=0 prescaled as needed to keep CODA Data rate below 100 MB/s.

2. SHMS angle 28.76 Production Cycle. label CODA runs KinC_x60_2'. Raster ON, Sweep ON (This is same SHMS as KinC_x36_2' previous, no new MCC tune needed)

1. LH2 Target
 1. Two 1-hour runs 30 uA, coin_sparse, ps6=0 (Adjust current as needed to keep CODA Data rate </= 100 MBy/sec).
 2. One 20-min run at 20 uA, coin_sparse, ps6=0
 3. One 20-min run at 10 uA, coin_sparse, ps6=0
 4. One 40-min run at 20 uA, coin_sparse, ps4=0
 - 5. One 10-min run at 30 uA, **coin** , ps6=0 prescaled as needed to keep CODA Data rate less than 100 MByte/sec.

2. Dummy Target
 1. 15 min run at 30 uA, coin_sparse, ps6=0
 2. 15 min run at 15 uA, coin_sparse, ps6=0

3. LD2 Target
 1. **Four** 1-hour runs 15 uA, coin_sparse, ps6=0
 2. One 20-min run at 10 uA, coin_sparse, ps6=0,
 3. One 20-min run at 7 uA, coin_sparse, ps6=0,
 4. One 40-min run at 10 uA, coin_sparse, ps4=0
 5. One 10-min run at 15 uA, **coin** , ps6=0 prescaled as needed to keep CODA Data rate below 100 MB/s.

3. Repeat KinC_x60_2 and KinC_x60_2' Production cycles

Short Term Run-Plan

From HallCWiki

last update: 12-Dec-23. Send comments and corrections to C. Hyde

The Full Run Plan is available to you here for your information. That Full Run Plan is not chronologically ordered. 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 page for reference.

- Angle constraints on Spectrometers [1] (<https://logbooks.jlab.org/entry/4179104>)
 - Minimum angles: HMS 12.37; SHMS: 28.30;
 - Minimum HMS-NPS Separation (remote) 26.70 deg = Minimum HHS-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>)
- **Tuesday 12 December**
 - **KinC_x60_2 and KinC_x60_2'**
 - HMS Angle 22.93 deg
 - HMS Momentum -3.803 GeV/c (electrons)
 - Sweep Magnet on 468 Amp. Correctors (0,0)
 - HMS Collimator **Sieve** Raster ON

1. SMHS Angle 32.87 deg Production Cycle. Raster ON. Sweep ON. Label CODA run KinC_x60_2

1. LH2 Target (All ps=-1 except single trigger noted. Never prescale ps6, except as noted)

- ✓ 1. Two 1-hour runs 30 uA, coin_sparse, ps6=0
- ✓ 2. One 20-min run at 20 uA, coin_sparse, ps6=0
- ✓ 3. One 20-min run at 10 uA, coin_sparse, ps6=0
- ✓ 4. One 40-min run at 20 uA, coin_sparse, ps4=0
- ✓ 5. One 10-min run at 30 uA, **coin**, ps6=0 (prescaled as needed to keep CODA Data rate less than 150 MB/s)

2. Dummy Target

- ✓ 1. 15 min run at 30 uA, coin_sparse, ps6=0
- ✓ 2. 15 min run at 15 uA, coin_sparse, ps6=0

3. LD2 Target

- ✓ 1. **Four** 1-hour runs 20 uA, coin_sparse, ps6=0
- ✓ 2. One 20-min run at 15 uA, coin_sparse, ps6=0,
- ✓ 3. One 20-min run at 10 uA, coin_sparse, ps6=0,
- ✓ 4. One 40-min run at 10 uA, coin_sparse, ps4=0
- ✓ 5. One 10-min run at 20 uA, **coin**, ps6=0 prescaled as needed to keep CODA Data rate below 100 MB/s.

2. SHMS angle 28.76 Production Cycle. label CODA runs KinC_x60_2'. Raster ON, Sweep ON (This is same SHMS as KinC_x36_2' previous, no new MCC tune needed)

1. LH2 Target

- ✓ 1. Two 1-hour runs 30 uA, coin_sparse, ps6=0 (Adjust current as needed to keep CODA Data rate </= 100 MByte/sec).
- ✓ 2. One 20-min run at 20 uA, coin_sparse, ps6=0
- ✓ 3. One 20-min run at 10 uA, coin_sparse, ps6=0
- ✓ 4. One 40-min run at 20 uA, coin_sparse, ps4=0
- 5. One 10-min run at 30 uA, **coin**, ps6=0 prescaled as needed to keep CODA Data rate less than 100 MByte/sec.

2. Dummy Target

- 1. 15 min run at 30 uA, coin_sparse, ps6=0
- 2. 15 min run at 15 uA, coin_sparse, ps6=0

3. LD2 Target

- 1. **Four** 1-hour runs 15 uA, coin_sparse, ps6=0
- 2. One 20-min run at 10 uA, coin_sparse, ps6=0,
- 3. One 20-min run at 7 uA, coin_sparse, ps6=0,
- 4. One 40-min run at 10 uA, coin_sparse, ps4=0
- 5. One 10-min run at 15 uA, **coin**, ps6=0 prescaled as needed to keep CODA Data rate below 100 MB/s.

3. Repeat KinC_x60_2 and KinC_x60_2' Production cycles

4. Wednesday Dec 13 (morning) Moller run

▪

BCM Calibration (~1.5 hour, loaded)
Dave Mack updated 12/11/23

Instructions to Hall C shift crew:

1. Give the MCC operator a copy of this procedure.
1. Fast Raster on 2x2 (to protect stuff)
2. Target out will make life simpler. (But LH2 or LD2 is in principle OK according to operational restrictions at http://opsweb.acc.jlab.org/internal/ops/ops_webpage/restrictions/ops_restrictions.html .)
3. Ask the MCC operator to show they can stably reach the maximum desired current.

We're only interested in scalers. (Prescale away the NPS if possible.) Check that the Unser and BCM scalers are counting on one of the xscalers screens . When the MCC calls to tell you they are ready, then

4. Start a run labelled "BCM calibration".
5. Make sure the daq keeps running during the procedure until the operator calls to say it is complete. You should keep track of the progress.
6. Replay the run because we need the scalers in the ROOT file. (It may be simplest to use the standard full replay.)

Instructions to the MCC operator:

- A strip chart in the elog of Hall C current vs time would be greatly appreciated.
- Do each of the following currents, plateauing for ~1.5 minutes each. (If you get a trip, then 45 seconds is long enough. But if there's a trip too near the start of beam-on interval, then restart the 1.5 minute clock.)
- Approximate currents are fine. The Hall C Unser will determine the true beam current.
- The zeroes are as important as the beam-on periods. (No need to close the slit for these.)

In units of muA:

0, 40, 0, 20, 0, 10, 0, 5, 0, 2.5, 0,

Then 40, 0, 20, 0, 10, 0, 5, 0, 2.5, 0,

40, 0, 20, 0, 10, 0, 5, 0, 2.5, 0.

Let Hall C know when you're done. Thanks!

BCM Calibration (~1.5 hour, loaded)
Dave Mack updated 12/11/23

Instructions to Hall C shift crew:

1. Give the MCC operator a copy of this procedure.
1. Fast Raster on 2x2 (to protect stuff) , *ps~~b~~=0* , *sparse_ON* , *edtm → 1.3k*
2. Target out will make life simpler. (But LH2 or LD2 is in principle OK according to operational restrictions at http://opsweb.acc.jlab.org/internal/ops/ops_webpage/restrictions/ops_restrictions.html .)
3. Ask the MCC operator to show they can stably reach the maximum desired current.

We're only interested in scalers. (**Prescale away the NPS if possible.**) Check that the Unser and BCM scalers are counting on one of the xscalers screens . When the MCC calls to tell you they are ready, then

4. Start a run labelled "BCM calibration".
5. Make sure the daq keeps running during the procedure until the operator calls to say it is complete. You should keep track of the progress.
6. **Replay the run because we need the scalers in the ROOT file. (It may be simplest to use the standard full replay.)**

Instructions to the MCC operator:

- A strip chart in the elog of Hall C current vs time would be greatly appreciated.
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- Approximate currents are fine. The Hall C Unser will determine the true beam current.
- The zeroes are as important as the beam-on periods. (No need to close the slit for these.)

In units of μA :

0, 40, 0, 20, 0, 10, 0, 5, 0, 2.5, 0,

Then 40, 0, 20, 0, 10, 0, 5, 0, 2.5, 0,

40, 0, 20, 0, 10, 0, 5, 0, 2.5, 0.

Let Hall C know when you're done. Thanks!

