

Preliminary 5 MeV FC Calibration (0.5 hour, but honestly just guessing)

Dave Mack updated 2/2/24

**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](http://opsweb.acc.jlab.org/internal/ops/ops_webpage/restrictions/ops_restrictions.html) .)

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

3. Start a run labelled "FC calibration".
4. 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.
5. 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:**

- At 10 muA, spend no more than 5 minutes trying to center on the 5 MeV cup. (The sensitivity is about 1% per mm.)
- A strip chart in the elog of Hall C current vs time would be greatly appreciated.
- Do each of the following settings for 30 seconds each. Approximate currents are fine:  
(The end of a row is a good time to take a break!)

| Current | 5 MeV Faraday Cup State (check off as you go) |    |     |    |     |    |     |  |
|---------|---|----|-----|----|-----|----|-----|--|
| 10      | Out   | In | Out | In | Out | In | Out |  |
| 5       | Out   | In | Out | In | Out | In | Out |  |
| 2.5     | Out   | In | Out | In | Out | In | Out |  |
| 1       | Out   | In | Out | In | Out | In | Out |  |
| 0.5     | Out   | In | Out | In | Out | In | Out |  |

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

BCM Calibration (~1.5 hour, loaded)  
Dave Mack updated 1/23/24

**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](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  $\mu\text{A}$ :

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!