

Non-Invasive BCM Calibration (~1.25 hour)

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Instructions to Hall C shift crew:

0. Give the MCC operator a copy of this procedure.
1. Fast Raster on (to protect stuff)
2. Target in (some target that can take the maximum current with this raster size)
3. Ask the operator to determine the highest stable current they can reach.

(We're only interested in scalers. Check that the Unser and BCM scalers are counting on one of the xscalers screen. It's possible that if the event rate is too high, the daq may crash. So you might want to adjust the trigger prescales. You can start a tentative bcm calibration run while the operator is trying to find out what the maximum stably deliverable beam current is.)

4. Start a run labelled "BCM calibration", or just keep the tentative one going. (If there are two single-arm daqs, then start a run on the SHMS daq and a run on the HMS daq.)
5. Make sure the daqs keep running during the procedure until the operator calls to say it is complete. You can watch the progress on a strip chart.

Instructions to the operator:

This procedure is nominally non-invasive, but of course the leakage is going to change in the other halls. (mostly for the better)

- Do each of the following currents for ~90 seconds each. (45 seconds is enough if you get a trip. If there's a trip too near the start of beam-on interval, then restart the clock.)
- Approximate currents are usually fine, +/-1 muA. We need better than that for the 2.5 muA point however.
- The zeroes are as important as the beam on periods. Close the slit for these.

In units of muA:

65 (?), 0, 56, 0, 40, 0, 28, 0, 20, 0, 14, 0, 10, 0, 5, 0, 2.5, 0,

Then repeat it in the same order

65 (?), 0, 56, 0, 40, 0, 28, 0, 20, 0, 14, 0, 10, 0, 5, 0, 2.5, 0,

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