<u>Non-Invasive BCM Calibration (~1.25 hour)</u>
Dave Mack   4/4/19

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 . Adjust the trigger prescales so you won't load down the daq too much at the highest beam current.)

When the MCC calls to tell you they are ready,

4. Start a run labelled "BCM calibration". (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:

   0, 70(?), 0, 56, 0, 40, 0, 28, 0, 20, 0, 14, 0, 10, 0, 5, 0, 2.5, 0,

Then more or less repeat it in the same order

      70(?), 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!