**MOTT COMMISSIONING PLAN (v1)**

**Commissioning I (499MHz, 6.3MeV, Pz)**

* Calibrate BCM to FC2
* Configure and test BCM FSD
* Open Mott valve and check vacuum
* Test target ladder motion and FSD
* Test beam setup script
* Verify beam to target ladder OK
* Test ladder position with beam on viewer and thru hole
* Setup CW beam to 1 um target foil
* Set HV for detector pulse height
* Set coincidence trigger
* Set timing trigger
* DAQ checkout for FADC, TDC, xScaler
* Detector rate vs. beam position on multiple foils (up/down/left/right/center)
* Detector rate and dead time vs. current
* Detector asymmetry vs. helicity pick-up
* Detector asymmetry vs. charge asymmetry (IA)
* Detector asymmetry vs. position asymmetry (HM if we want to try)

**Commissioning II (499/31MHz, 5.0MeV, Px/Py/Pz)**

* Set beam energy to 5.0MeV crested
* Compare transition from 499MHz to 31MHz using spectrometer and Mott
* Study dump using thru hole (analyzing power, rate from dump/ladder)
* Measure asymmetry vs. time to test reproducibility
* Measure asymmetry vs. rate
* Measure asymmetry vs. spin angle check Wien filter and alignment
* Measure asymmetry vs. position
* Measure asymmetry vs. spot size
* Measure all foils (rates, energy spectra, timing spectra, signal, background)

**Commissioning III (31MHz, 3-8 MeV, Px/Py/Pz)**

* Measure energy, energy spread, emittance
* Determine control of spot size at target
* Measure rate, background, asymmetry using 1um Au with Px at each energy tested
* Define what is meant to set at different beam energies
* Determine acceptable range of beam energy
* Complete any Aluminum dump measurements (anticipate change in February)