



1. Calibrate the Energy spectrum

- Put the system in MCA mode (click the "system options" key)
- Measure energy spectrum of just the source (no sample).
- Measure energy spectrum of Natural Iron Foil (baseline measurement)
- Measure energy spectrum of several other foils
- Use X-ray Data Booklet to determine the emission lines in each spectrum
- Make plot of Energy vs. channel number -- this is your calibration
- Determine at which channel # is the nuclear resonance signal

2. Set the Discriminator levels

- Click on the tool key (Range, preset, ...) --- MCA Settings shows up
- Click on ADC
- Adjust Lower and Upper Level settings to allow only the nuclear resonance signal to be seen. The rest of the spectrum should be blocked out.

3. Start the Mossbauer Measurement

- (a) Put the system in MCS mode (click the "system options" key)
- (b) Press "start" to start measuring the Mossbauer spectrum.
- (c) Measure the iron-based samples only (Fe-foil, stainless steel, FeF, iron-oxides, etc)
- (d) Calibration for Mossbauer spectrum (counts vs. velocity)
one channel = 0.0445048 mm/sec (for $v(\max) = \pm 12$ mm/sec)
- (e) Fold the data to improve the statistics
- (f) Find the internal magnetic hyperfine field of the iron nucleus

