**Plan for auswertung für Masterarbeit**

* One function that calculates the spectra from the raw data and saves them
* Then functions that take the spectra and calculates from them
* Bin the spectra, which should occur in the raw data to spectra step. Is just averaging over a number of pixels
* First correct for background, then bin
* for filter cxro data download, then linearly interpolate, then assign for each shot
* for spectrometer dimensions, basically want to find signal strength relative to the distance to the source. Is to eliminate the influence of distance so that can calculate the integrated reflectivity later.
* Also need to correct for the detector efficiency and other factors on the detector. Would get from greateyes
  + Theres also an effect about the photon energy needed to get a count, so that higher energies have higher counts than it should
* After this should have the relative photon count
* Simplify and clean code
  + Put global parameters on top of bib.py

**Filter calculations:**

* Only input extra filters on everything
* The 2mirometer mylar can subtract from every spectrometer 🡪 do in code
* If filterType = “carbon” or “gold”, then is areal density, otherwise microns
* To ask:
  + Take into account angles?
    - Can just take into account the central angles. The angle ranges can be neglected
  + Thickness of carbon filters simply areal density/density?
    - works how I thought
  + black polycarbonate (pokalon) same as polycarbonate
    - gleich behandeln

**Questions for philipp:**

* Welche linien erwarten wir bei Al? Ich wollte die Ergebnisse für die FSSR Dispersion (Event 2 und 16) validieren

**Next Steps:**

* Try to find ADP resolution using the K-edge, or if that doesnt work, a rare earth line
  + To use K-edge, fit a convolution of a gauss and error function onto edge
  + rare earth would be inconvenient, since need to isolate a line and be able to find Doppler broadening
* ~~Write FLYCHK to get account to use website. Ask about Doppler broadening width definition~~
* Work on the calculation of the relative integrated reflectivity
* ~~Build in new dispersion for unfocused FSSR~~
* Build in the detector influences on the spectra so that can do a comparison of intensity given by bent vs flat crystal, helps the overall story
* Estimate plasma temperature using bremsstrahlung of gold
* Make each dispersion use same box
* Make absorption shots automatically adjust to line up, then set the K-Kante at the right place
* Use constant background for resolution calculation