usage: experiment.py

*-h, --help* show this help message and exit

*[--dummy] [--dm] [--slm]* One of these flags MUST be specified: dummy uses synthetic image generation/ random noise. SLM/DM should be self explanatory

*-stability* Run 18 iterations of correction using system aberrations. Uses parameters from specified model

*-system SYSTEM* Run correction over all modes with QUADRATIC FIT for specified iterations with no applied aberration. *--system 18* is the equivalent of stability but for conventional estimation

*-single\_abb* SINGLE\_ABB Plus/minus of specified aberration. Also specify single\_abb\_mag

*-single\_abb\_mag* SINGLE\_ABB\_MAG single\_abb Aberration magnitude

*-scan\_bias SCAN\_BIAS* Flag to run through applying starting aberration for each bias aberration and attempt tocorrect it.

*-scan\_all SCAN\_ALL*  Flag to run through all modes

*--correct\_bias\_only* ignore model estimates other than bias modes

*-metric METRIC* select metric: region/total\_intensity/max\_intensity/low\_spatial\_frequencies\_200 <- number is pixel size in nm"

*-dataset DATASET* one of large/small/all specify whether to collect only large/small subset

*-method METHOD* Specifies experiment type FOR ALL EXPERIMENTS:'mlao'(default) or 'comparison’ or 'quadratic' (short form: m,c,q)

*-model MODEL* select model number

*-log LOG* select logging level: info/debug/warning/error

*-output\_path OUTPUT\_PATH*

In summary, there are 5 experiments that you can run, based on what we did most often. I can add more depending, but this should hopefully be a good starting point

-system Runs the correction with system aberrations for specified iterations. Uses parameters from specified model

-stability Runs MLAO for 18 iterations, using the specified model, no applied aberration.

-single\_abb Positive/negative of specified mode. Also specify single\_abb\_mag

-scan\_all (equivalent to scan -1 from before)

-scan\_bias (equivalent to scan -2 from before.

These can be used in combination:

e.g.

experiment.py -quadratic -stability -single\_abb 10 -single\_abb\_mag 2 -log info -model 7 -method comparison -output\_path ./results

will run the system, and stability experiments for model 7, followed by +2/-2 mode 10 for both mlao and conventional, and output the results to ./results (the default)