- **Corneal and Axial info for M838.jpg** : Animal 838 is the one we have the chromatic data and spatial frequency data from that we are still imaging. All the data is from OD, which has an axial length of approximately 16.56mm, corneal curvature of approximately 5.49mm, and refractive errors of approximately 61.1 D and 61.8 D along the 90deg and 180deg axes. The pupil size is approximately 6.7mm when dilated. It's not included in this document, but the retinal conversion for this animal is 199.26 microns/deg, and the typical retinal distance conversion for macaques is approximately 200 microns/degree, using the formula -> $^{\mu m}/_{deg} = 291.2 * \frac{Axial\ length}{24.2\ mm}$, where 291.2 microns/deg and 24.2mm are the average conversion and axial length for humans.

- **cone_data_M401_OS_2015.mat** : Animal 401 was studied in the paper published by McGregor and Yin (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6261564/). I couldn't find the axial length, so if you need to convert from microns to degrees you can just use the typical 200microns/deg conversion. This matlab file contains only a single variable "cone_locxy_diameter", which is a 1093 x 3 double array. The first column is the distance along the nasal-temporal (X) line from the fovea in microns where negative distances are towards the nasal side. The second column is the distance along the inferior-superior (Y) line from the fovea in microns where negative distances are towards the inferior side. The third column is the median cone diameter at that X,Y location. It should be simple to convert those X,Y values into eccentricities in degrees if that's what you prefer.

- **SpatialFrequencyData_M838_OD_2021.mat** : Same animal 838 and eye as described above. This matlab file contains several variables: "axial_length" has the 16.56mm axial length. "d_pupil" has the 6.7mm pupil diameter. "lambda" is the wavelength of the gratings at 561nm, and "umperdeg" is the conversion for that animal at 199.26 microns/deg. The 1x14 array "freqs" contains the spatial frequencies of the gratings played in cycles per degree. The 15x14 array "midget_dfF_otf" contains the spatial frequency responses of 15 different chromatic opponent cells to the 14 different spatial frequencies played; the actual values are df/F response values calculated from the GCaMP fluorescence of those cells and then corrected by the OTF. I should also mention that these cells are from the very center of the fovea: their cell bodies are located on the edge of the foveal slope, 1.25-1.75deg from the center, and their predicted receptive fields are in the centermost 0-25microns, which is approximately the centermost 100 cones. The 1x15 cell "cone_center_guesses" has the predicted center cone for each of those 15 cells based on their luminance response assuming the center would dominate. Finally, the 1x14 "otf" has the calculated values of the OTF for a pupil at 6.7mm; if you wanted to know what the response values including diffraction are for the cells, you could pointwise multiply the values from "otf" by the values in "midget_dfF_otf" to add diffraction back in.

- **The stimuli:** The gratings were approximately 1.3 degrees square, and were presented as 100% contrast sinusoidal monochromatic gratings at 6Hz temporal drifting speed. Given the size of the gratings, it is safe to assume they covered almost the entire foveal pit/center. The chromatic stimuli were approximately 1.3 degrees in diameter of circular shape, and were spatially uniform temporal flicker at 0.15 Hz, using LEDs of nominal wavelengths 660nm, 530nm, 420nm. The L-isolating stimulus had a calculated cone contrast of 24%, the M-isolating stimulus had 33%, the S-isolating stimulus had 92% contrast, and the Luminance stimulus was 100% contrast for all cone classes.