

Dark Frame Correction:

Take the average of 25x25 pixels from one or more corners of the data image. Subtract this average value from all pixels of the image. Be careful not to use a corner that has a reflection of the moon in it.

Flat Field Correction:

Flat field corrections for REGO are generated using the same image area that is mapped with the sky map for each camera. Flat fielding can be done for these slightly reduced areas only. The dark frame corrected data images from REGO cameras are multiplied by the flat field correction array provided in the IDL save file for each site, where these IDL save files are camera serial number specific as well as site specific.

Rayleigh Conversion:

Each combination of site and camera will have a unique Rayleigh conversion value that applies to the images post dark frame and flat field correction. The Rayleigh conversion value is for a 512x512 pixel image, normalized to a 1 second exposure. From the point of deployment in the summer of 2014, the REGO cameras perform a 2.2 second exposure, thus the DN values in the image files must be divided by 2.2 in order to correspond to the DN per second that would match the calibration file. The exposure duration will always be in the meta-data of the image, please write code to extract the exposure duration from the meta-data to ensure your Rayleigh converted values are correct for that image.

Multiply the dark frame and flat field correction by the Rayleigh conversion value provided and divide by 2.2 to get Rayleigh converted values from the REGO images.

Van Rhijn Correction:

Van Rhijn corrections can be applied to the REGO images. The sky map file provided has the look angles required for calculating the Van Rhijn coefficients for REGO images.