

An image reduction work flow:

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Project 83

Images provided:

5 Bias Images

5 Flat images for each filter (R, G, B) total 15 images

2 images of each science image of each filter (R, G, B) total 6 images per object

4 galaxies images - 24 total science images.

Before any image reduction, remove overscan region and image border (columns 2047 to 2079, rows 0 and 2047)

Note:

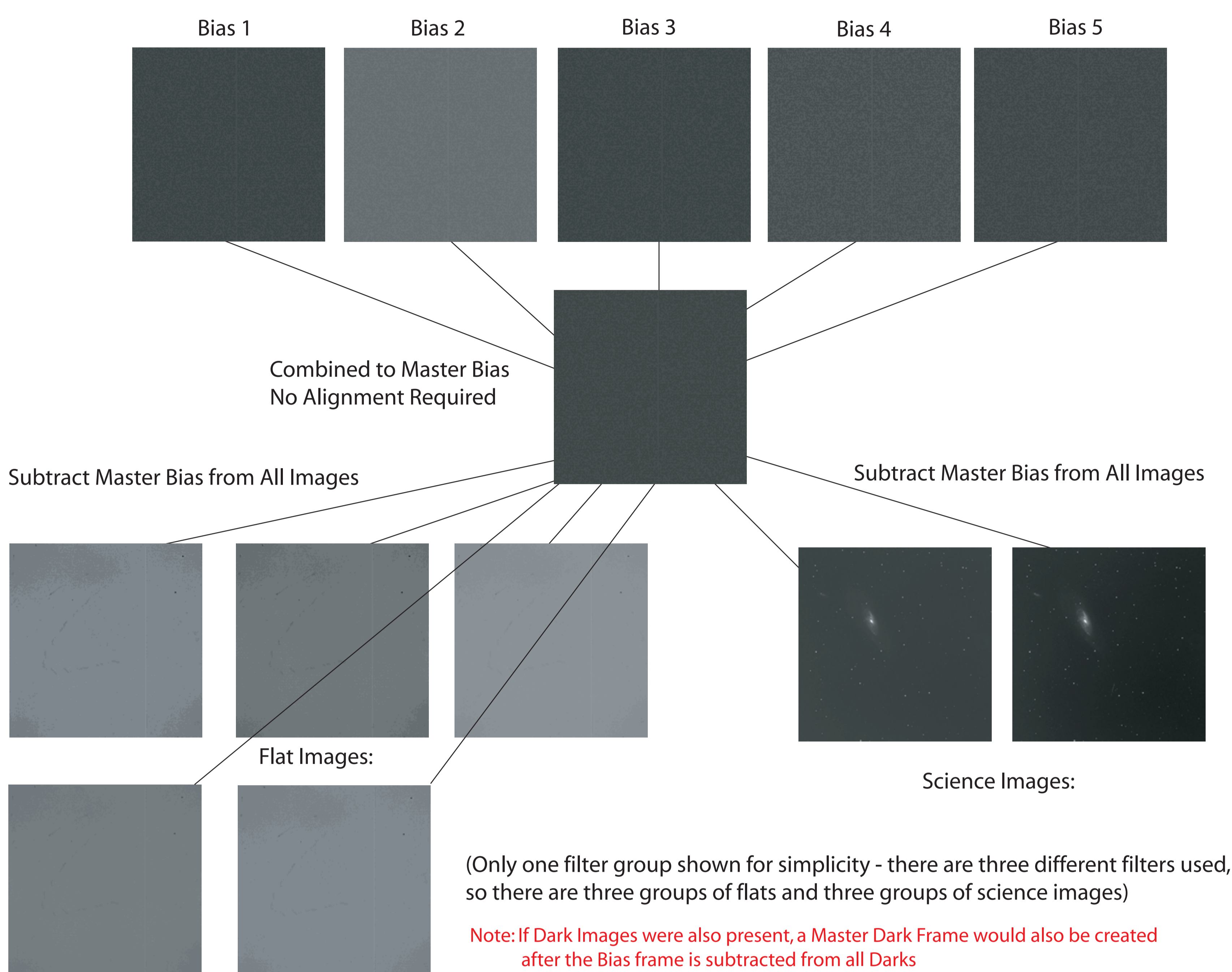
Project 83 does not provide Dark Frames. In any other case, image reduction should be as follows - in order:

Frame required - Darks, Bias, Flats, Science (see definitions below)

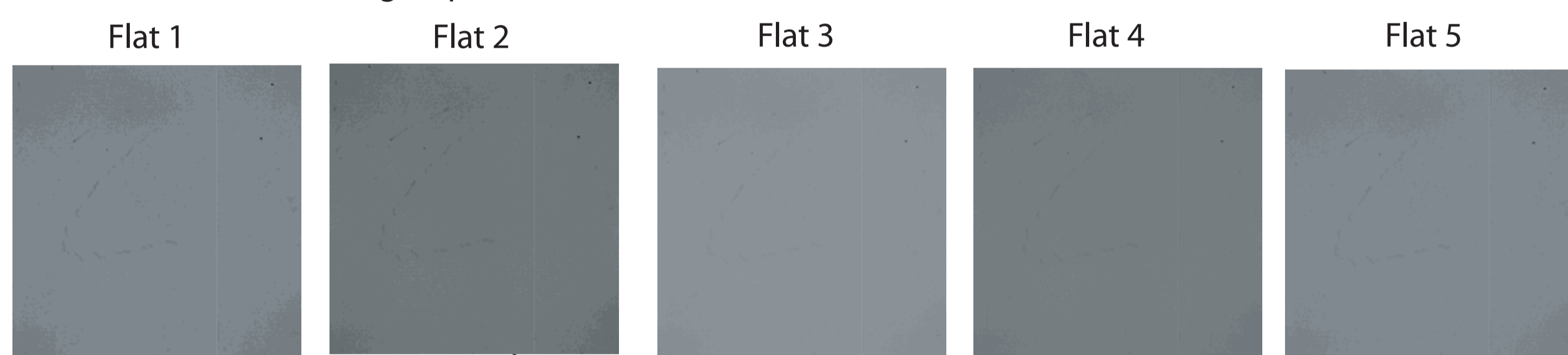
1. Subtract Bias frame from all images

2. Subtract Darks from all images (note: make sure the correct darks are used - i.e. Dark Flats and Dark Science)

3. Subtract Flats from Science images



Then create master flats of each filter group...



Software used - in order of operation:

MaxImDL 4.10

Overscan removal

Bias Median Combine

Bias Subtract All Images

Flat Median Combine

Flat Subtract All Images

CCDSOFT 5.00.153

Science Image Alignment

Color Combine

MaxImDL 4.10

Low Pass Digital Development

Unsharp Mask

PhotoShop CS

Gradient Removal

Image Heal

Crop and Save as Final

Then create a color composite image out of the three filters - R, G, B



Definitions:

Bias Image = shortest exposure, defines minimum CCD noise

Dark Frame = exposure of equal duration as image with shutter closed

Flat Frame = Image of an evenly illuminated source, used to demonstrate CCD defects

Science Image = image of the object of interest

Notes:

Dark Frame for flats must be the same duration as the flats

Bias images must be subtracted from all images before anything else

Cleanup and Crop

