i-band flat field and star flat

jta

October 1, 2012

The sdss field F master flats were the starting data. For each flat, for each ccd, 2×4 boxes of 900×900 pixels at least 100 pixels away from the glowing edges we selected and the medians in the boxes calculated and stored with coordinates.

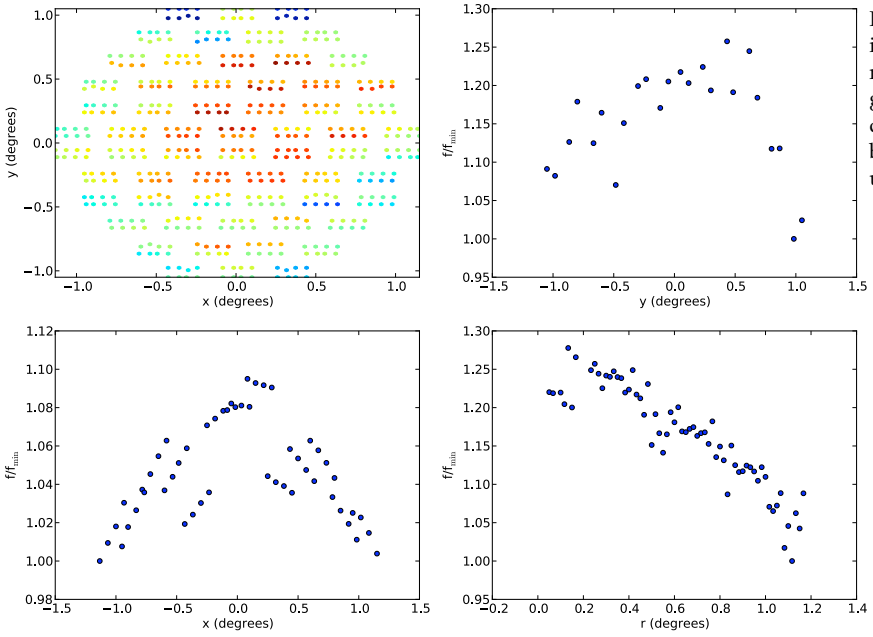

Figure 1: The i-band master flat. There is a 25% gradient from center to edge, much larger than the predicted pupil ghost. The gain correction applied doesn't seem to be quite correct, though better than not doing it. Do we have an updated gain table?

These radial gradients are much bigger than the expected pupil ghost. There is no change with filter height, as expected for the pupil ghost. What is going on here? How sure are we that the flat field illumination is flat?

Star Flats

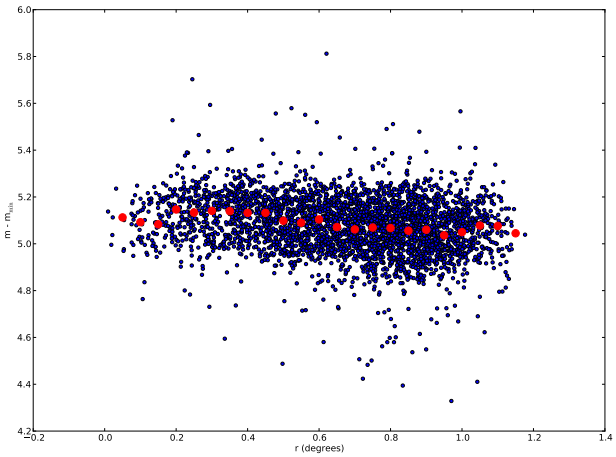

Figure 2: The i-band star flat. SDSS $18 \leq i \leq 20$ stars matched against the DECam catalog. The red dots are medians inside radial bins.

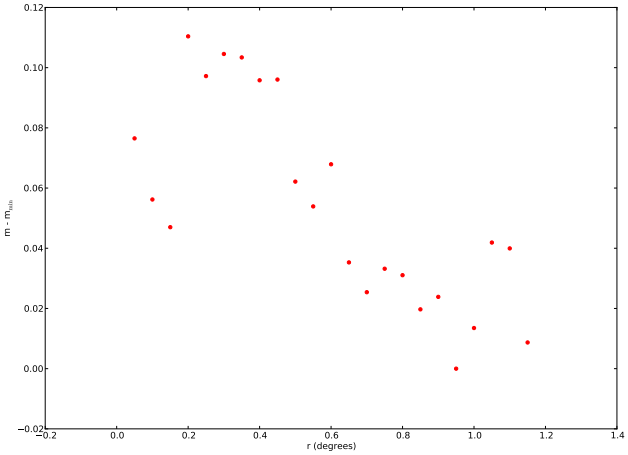

Figure 3: The i-band star flat, only the medians shown. This shows a 10% gradient, larger than the predicted pupil ghost but smaller than what is seen in the flat field. Perhaps the amplitude is reduced by the extreme scatter in the matching mags, as seen in figure 2