

Weekly Report

John Anglo

June 22, 2012

1 Comparing star brightness between sites

For measuring a star's brightness I decided to use a method similar to what I had been using last week; a star would be pinpointed using its maximum, and some surrounding pixels would be used to find an average background value, to be subtracted from the whole image. Then, with the area immediately surrounding the star expected to be zero values throughout, the total of the maximum and surrounding pixels would be added up, giving something akin to the area under the curve of the star's function in the image space.

To further examine the consistency of this method I looked at other data sets in which the same star could be expected to be found. First I tried other sites, but found only a couple with useful periods; clouds and other things obscured the field of view leaving few clear periods. It was assumed that the same star was seen in both sites' data since the radius of the arc traced by the star was roughly the same in both sets of data. Using the method described previously I found that the star's average brightness in two sets of data differed by about 10%. The centres of the arcs were different meaning the sites appear to be at different latitudes, so this might mean that atmospheric variation should not affect values greatly on clear nights.

The next step will be to do the same for data collected on different nights at the same site; I hope to be able to find a continuous series of clear nights for this purpose.