6.2.2 : Standard Star Solutions

In the literature, we found calibrated standard star magnitudes for a variety of filters (*cf.* Thuan and Gunn 1976 and Kent 1985). For V2 we used the standard V band magnitudes and for R_s the gunn-r band magnitudes.

After summing up the flux from the standard stars, we calculated atmospheric transmission values for the various filter bands and determined a "reference magnitude" (the magnitude of an object yielding 1 DNs^{-1} at zero airmass. We also used these data to check the photometric quality of the night.

6.3 : Aperture Photometry on QSOs and Comparison Stars

To extract the fluxes from the QSO and the comparison stars we summed the pixels within four circular apertures centered on the first moment centroid. The aperture radii were set at 3, 4, 5, and 6 times a chosen radius, which was on the order of 1.5 to 2.0 pixels (roughly the half-width-half-maximum under good conditions). Since the same radii were used for all the stellar sources within each image, the ratios between the sources remained constant (for no intrinsic variability) from image to image regardless of changes in seeing or transmission.

All pixels whose center was closer to the centroid than a given aperture radius were summed. The pixelation error due to summing only whole pixels is discussed in chapter 7. The median background, taken from a large annulus centered on the stellar source, was subtracted from each pixel in the summation. An error based on the Poisson errors in the source and background pixels was recorded for each object.

Since close pairs of objects will introduce errors due to overlapping flux, comparison stars were chosen which were fairly isolated. In a few fields, the QSO itself was close to other stellar sources. Additional (unaccounted) errors were introduced for these QSOs which included the BALQSOs 0104+3135 and 0145+0416.

Data on the summation, errors, full-width-half-maximum, background level, peak counts, aperture radius, centroid, and magnitude were recorded for each aperture radius