scale height above the galactic plane is on the order of few kpc. The deficit of stars in the upper right of the spectral type distribution graph is due to the rapid decrease in the apparent surface density of stars with decreasing distance from Earth, while the deficit in the lower left is due to the lack of stars (especially young stars) in the galactic halo (relative to the galactic disk). Also evident is the possibility that a significant fraction of the brighter comparison stars are KO or G5 class III giants in the galactic halo. Note that KO III stars are somewhat redder than KO V stars (see figure 7-2), so the identifications would shift to bluer spectral types if the stars were actually class III.

In calculating the relative flux light curves (see below), the dominant contributors will be the brighter stars. As seen in the lower right graph in figure 7-3 , nearly all of the fields have at least one comparison star brighter than V = 17. Therefore, only the upper portion of the spectral type distribution graph is used.

We can estimate a probable maximum color/airmass error in our flux ratios, by assuming a range of spectral types between F0 and M0, and a change in airmass of 1.0. Referring back to figure 7-1 , this maximum error will be about 0.6 to 0.7%. However, the more *typical* error for the majority of objects can be estimated assuming a range of spectral types between F5 and K5 and a change in airmass on the order of 0.5 . This error is expected to be about 0.2 to 0.3%.

We have not corrected for dust reddening, which would tend to make our spectral type identifications too red. This should be considered when viewing figures 7-2 and 7-3 . However, for the purposes of estimating our color/airmass error what a star appears to be is more important than what it is.

7.1.2 Pixelation Error

Since the method for extracting fluxes from stellar sources (see chapter 6) involves summing whole pixels whose distance from the centroid are less than the aperture radius and since the centroids of each star in a given image will fall at different locations within a whole pixel, a non-Gaussian “pixelation error” is introduced in our results. The 1 meter