distribution, and thus perhaps the more variable QSOs. The significance of this effect depends on the ratio between the maximum long-term deviations and the distribution of average luminosities within the QSO population. The spread in luminosities at any given redshift is on the order of a factor of 10, so we would need variations of $\gtrsim$1 magnitude (a factor of 2.5) in order for this effect to be significant. Since, the medium term ($\sim$1 year) variability is only $\sim$0.2 magnitudes, we would need to hypothesize the existence of long term (>10 years) variations of at least 1 magnitude, and a correlation between long term and medium term variability.

Finally, we note that if a variability bias with redshift does exist, it will have an effect on QSOs selected via variability. It will also make more uncertain the luminosity estimates at high redshift thus affecting the evolution of the luminosity function (Giallongo *et al.* 1991).

8.6 : Future Observing Strategies

Larger samples, a wider range in redshift and luminosity, a lower detection limit, an increased sampling rate, and a longer monitoring timespan will all help distinguish between the ideas presented above. In particular, the study of high redshift QSOs (z_e>3.5) will show whether the apparent variability at higher redshifts is more likely an age dependent effect or simply due to a shifting observed rest wavelength and a variable spectral index. A wider range of apparent magnitudes will better distinguish luminosity and redshift effects. Longer timespans with smaller errors will help better define the character of the variations. For instance, do all QSOs show large ($\gtrsim$ 0.5 magnitudes) variations if observed over long enough timespans (*cf.* Smith *et al.* 1991), and do large variations preferentially occur in radio-loud QSOs? Longer timespans will also determine how the variability detection probability increases with time which will help determine the true fraction of QSOs which show detectable variability and the frequency of variation events.