

rest frame wavelength (as discussed above). We note that variability can be characterized both by amplitude and frequency. A relative change in the amplitude/frequency distributions with redshift may also suggest an age dependence.

It is also possible that the environment and conditions from which a QSO forms may have an effect on variability, and that those conditions change as a function of the age of the universe.

8.5.3 : Effect of Microlensing on Variability

Gravitational lensing by galaxies and clusters of galaxies will both amplify and distort the images of background QSOs, and will affect the observed source counts of quasars (*cf.* Schneider 1987). Microlensing (the lensing effect of compact objects, *e.g.* stars within a lensing galaxy) may also affect QSO statistics via the amplification of the QSO flux (*cf.* Wambsganss 1992). Microlensing will also cause observable variations in the flux of a QSO due to motion of compact objects transverse to our line of sight. For stars within a galaxy, this is caused both by the bulk motion of the galaxy and random motions of the stars within the galaxy (*cf.* Kundic and Wambsganss 1993). This was first seen in Q2237+0305 (*cf.* Corrigan *et al.* 1991) as independent variations on the order of 0.3 mag in three of the four components. Microlensing has also been seen in the BALQSO H1413+117 (Kayser *et al.* 1990 and Angonin *et al.* 1990), and is the reason for excluding this BALQSO from our overall statistics.

If microlensing is a frequent occurrence in QSOs, there will be a selection effect in the sense that microlensed QSOs tend to appear to have higher intrinsic luminosities and thus are easier to find at high redshift. This means that a larger fraction of the *discovered* QSOs at high redshift may be effected by microlensing and thus increased variability. The incidence of microlensing should also increase with redshift due to the increased probability of intersecting a compact object suitable for microlensing. We should find a correlation of variability both with the *apparent* intrinsic luminosity and with redshift. Which correlation is stronger depends on the strength of each selection effect.