The upper right graph of figure 8-4 shows the structure function with no restriction on whether the QSO has shown variability. The open circles are the square root of average of the deviations squared. The increase in the average deviation between 0 and 0.4 years is evident, although the data is dominated by QSOs which have shown no apparent variability. To better identify the variation timescale, we have restricted the objects to those with probable variability ($\log(P)<-3$) in the upper left graph of figure 8-4. The variation timescale is on the order of $\sim$0.3 years with a maximum deviation of $\sim$0.10 mag, consistent with the autocorrelation analysis. In the lower left graph of figure 8-4, we have restricted the objects to those with a very high significance of variability ($\log(P)<-9$). Here the timescale is $\gtrsim$0.5 years and the maximum deviation is $\sim$0.11 mag. The most likely explanation for the difference in these graphs is that timescale variation is comparable to the the total timespan of observations, *i.e.* the most significant variability is seen in objects where the observing timespan covered a larger fraction of the variational period. This implies that the *typical* variation timescale is at least 0.5 years in the QSO rest frame. The maximum deviations we detect range from 0.1 to 0.2 mag, although a larger deviation is likely since we are only seeing segments of the variational periods.

In cases where QSOs were observed on more than one night during an observing run, we have epochs with separations of only a few days (Earth frame). In the lower right graph of figure 8-4, we search for the possibility of short timescale variations. We have used the same symbol convention as in figure 8-2. There is no evidence for variations on scales of less than 10 days.

8.3.6 : Variability and Radio Brightness

Essentially all BALQSOs are radio-quiet (see chapter 4), and only a handful have radio detections, nevertheless, we can ask whether there is any correlation between radio brightness and variability in our BALQSO sample. It has recently been claimed that among radio-quiet ($\log(R^*)<2$) QSOs there is an excess of BALQSOs which are radio-moderate ($0.2<\log(R^*)<1$), (see Francis *et al.* 1993 and Stocke *et al.* 1992).