

see as many deep troughs as have been observed, if the BALR did not (often) completely cover the continuum source.

2.3 : Acceleration of the BALR

Evidence of line-locking in BALQSOs (Foltz *et al.* 1987) indicates that line radiation pressure plays some role in the acceleration of the BALR. However, it is difficult to explain the entire acceleration of the BALR by radiation pressure alone because the individual clouds are probably optically thin. Some authors have favored a thermal or particle wind to play a major role in the acceleration of the region, both to provide additional momentum transfer and to confine the clouds. See Weymann *et al.* (1985).

We cannot rule out either accelerating outflows (higher velocity clouds further out), or decelerating outflows (lower velocity clouds further out) for the BALR. However, arguments based on the occultation of emission favor decelerating flows, see Turnshek 1988. This assumes that part of some BELs, come from the BALR outflowing perpendicular to our line-of-sight. In order to block this emission at low outflow velocities, the low velocity clouds must be further from the central source. Also, Voit *et al.* 1993 have argued for a decelerating flow in low-ionization BALQSOs based on the strength of the lower ionization BALs at low velocity. On the other hand, the time variability of the BALs in UM 232 (Barlow *et al.* 1989), suggest that either the flow is accelerating, or else the electron density must decrease rapidly with radius ($n_e \sim r^{-\beta}$, where $\beta > 2$).

2.4 : Densities and Ionization Levels

In order to reproduce the range of high ionization BALs seen in BALQSOs, it is generally necessary that the ionization parameter, $U \gtrsim 0.01$ (see chapter 3). This has been suggested by the time variability in at least two cases (Barlow *et al.* 1989 and Barlow *et al.* 1992). Even higher ionization parameters, $U \gtrsim 0.1$, cannot be ruled out, although this would make it more difficult to explain the presence of some of the lower ionization BALs.