to invoke synchronous effects (from our perspective) along our line-of-sight through the BALR. In other words, the time it takes for the effect to propagate through the BALR (at the speed of light), is equal to delay between the photons which pass through the near and far side of the BALR. This is in contrast to emission-line variability, where we would expect to see delays which depend on the distance scales and geometry of the BELR (*i.e.* the light travel time difference between the light path QSO-to-cloud-to-earth versus the light path QSO-earth).

As a result, (unlike BEL variability), BAL variability does not give direct information about the QSO-to-cloud distances. However, the simpler geometry of the line-of-sight clouds offers the possibility of a less problematic study of the characteristics of absorbing gas and the structure of the region. These differences between the studies of BELs and BALs are complementary, and studies of both should inevitably provide us with a better view of the QSO environment.

In light of our primary hypothesis (that ionization level changes drive BAL changes, and that the BALR is photoionized by the continuum source), we have attempted to monitor the continuum level of the BALQSOs as accurately as possible, as well as obtaining optical spectra of the BALs. In this way, we can use continuum and BAL variability correlations to test the variability mechanism model.

1.5 : Goals and Content of this Thesis

In this thesis, we first attempt to summarize current knowledge on the nature of the broad absorption-line region (chapter 2), in an effort to lay a foundation for the information that we wish to gain from our studies.

In chapter 3, we detail some of the information which can potentially be derived from BAL variability. Assuming that the BAL gas is photoionized, and that the changes are driven by changes in the ionization levels of the absorbing gas, we can estimate the ionization parameter of the gas. We use a radiative-collisional equilibrium program called CLOUDY (*cf.* Ferland and Truran 1981) to determine the expected distribution of