

“summed” to create the spectra do not cover the full extent of the spatial profile in order to maximize the S/N by reducing the amount of background light summed. (4) Small irregularities introduced during the optimal extraction technique (see §10.2). (This effect is usually negligible.)

### 11.5 : Continuum Fitting

Once all the continuum adjustment functions were determined, the templates from all the epochs were averaged. This provided us with a high S/N, large wavelength coverage template from which a single continuum function could be determined. We generally first attempted to fit a power law between wavelengths blueward of the C III]  $\lambda 1909$  BEL and portions redward of the N V BEL. Often, we needed to do crude interpolations around BELs and extensive BAL systems, and extrapolations beyond the usable continuum segments. The continua fits used in QSO spectra analysis are generally rather arbitrary, and in BALQSOs it is especially difficult. We have used predicted positions of BELs known to exist in most QSOs and have estimated where BALs should fall assuming that the structure of the troughs are similar for different ions. In particular, we have not assumed the region between C IV and He II (see figure 8-1) to represent continuum, and we have allowed for a significant depression of the continuum blueward of Ly- $\alpha$  blueward of the Ly- $\alpha$  BEL.

Note that since we use one continuum fit for all epochs, the arbitrariness of the fits do not mean errors when comparing the spectra between epochs. However, bad continuum fits will yield poor estimates of column densities of the BALs, especially for the weaker troughs.